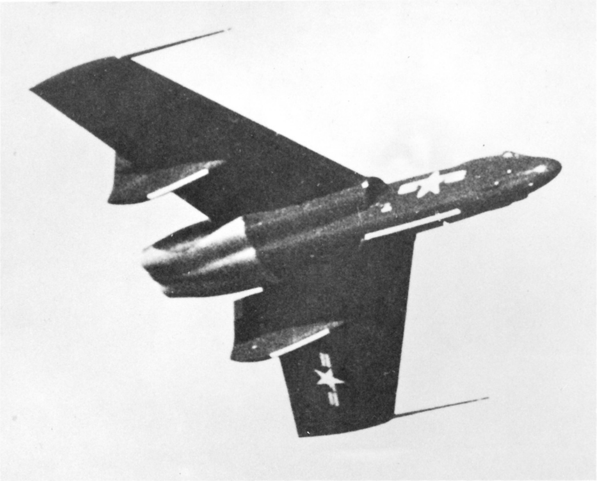
NAVAL FIGHTERS NUMBER SIX

CHANCE VOUGHT F7U

Cutlass

23
XF
NAVY
VX-4
23

XF7U-1, F7U-1, F7U-3, 3M, AND 3P. BY STEVE GINTER

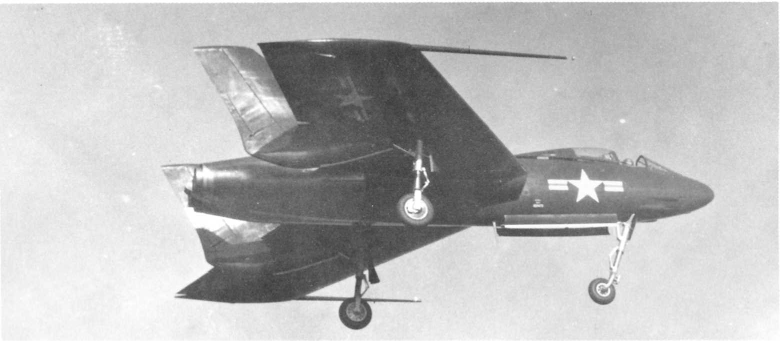


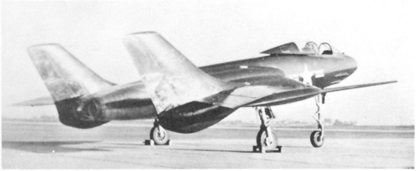
XF7U-1

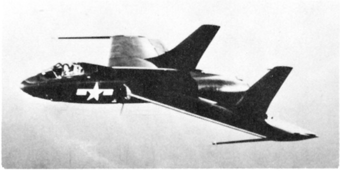
PHOTOS: TOP — First flight of the XF7U-1 prototype on 29 Sept. 1948. USN photo taken from a movie frame. Plane is overall blue with natural metal tail cones and white stripes painted over edges of gear doors. MIDDLE — XF7U-1, 122472 again on 18 Oct. 1948 while landing. Note protruding mast behind nose gear doors and silver landing gear. National Archives photo. BOTTOM — Two more views of XF7U-I, 122472, via Collect-Air Photos. Note in all four photos the test booms on both wing tips. These booms were to cause severe vibrations and were replaced by the standard nose boom.

FRONT COVER

F7U-3 from VX-4, armed with Sparrow I missiles. USN photo.







INTRODUCTION

Anyone having photos or other information on this aircraft or other 50's era naval aircraft, may submit them for possible inclusion in future issues. Any material submitted will become the property of NAVAL FIGHTERS unless prior arrangement is made. Individuals are responsible for security clearance of any material before submission.

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BACKGROUND

The Chance Vought F7U Cutlass was the most radical fighter design ever to achieve fleet service. At the aircraft's unveiling, the press was so stunned by its unusual appearance that the plane was given such nicknames as, bat-like, dart-like, praying mantis, preying petrodactyl, giant arrowhead and flying wing. The bold design of the Cutlass gave the Navy a pioneer airframe which was to test and develop many systems that are still in use today.

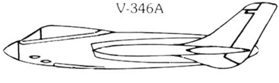
The F7U was the first tail-less airplane to go into production in the United States and the first jet fighter in the U.S. designed from the outset with afterburners. The Cutlass was also the Navy's first swept-wing jet, and its first with steerable nose wheels and an irreversible power control system. In addition to these firsts, the F7U would also be the first U.S. aircraft to have supersonic separation of stores and carry rockets in an underfuselage pack.

Design of the unconventional Cutlass started in June 1945, and the tail-less configuration was developed in an attempt to solve the compressibility problems then being encountered by such planes as the P-47 and F4U. These aircraft were experiencing the compressibility phenomenon at around Mach .75 and since the F7U was expected to operate in the neighborhood of Mach .9+ a solution was necessary. It was known that at this high speed the downwash on the horizontal tail was causing the nose to tuck-under. Once this started, the stick forces would become too great for the pilots to handle. Since it was not possible to effect a trim change large enough to give you a negative lift coefficient, Vought decided to solve the problem by removing the horizontal stabilizer.

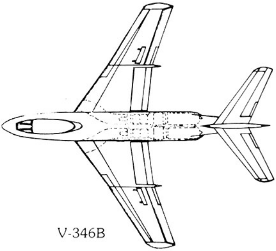
The Navy opened a 1945 fighter competition for a fighter capable of 40,000 feet and 600 m.p.h. Bids were to be submitted by April of 1946. By the deadline, twelve different designs were submitted by six companies. Vought submitted four; McDonnell, North American and Curtiss Wright two each; and Martin and Douglas one each. The final contenders were Vought's V-346A, B, C and the Douglas 565.

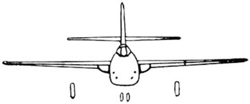
The Vought V-346A was chosen the winner on June 25, 1946 and designated XF7U-1. This first contract covered three flying prototypes and no static test airframes.

V-346A: Swept-wing tail-less aircraft weighing 14,300 lbs. with two J-34 engines side-by-side, inside the fuselage and a 6,500 fpm rate of climb, with a top speed of 620 knots.

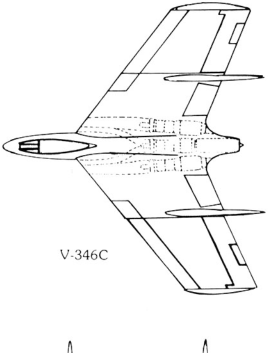


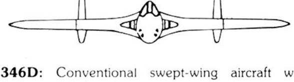
V-346B: Conventional swept-wing aircraft weighing 15,700 lbs. with two J-34 engines side by side, inside the fuselage and a 5,800 fpm rate of climb, with a top speed of 605 knots.



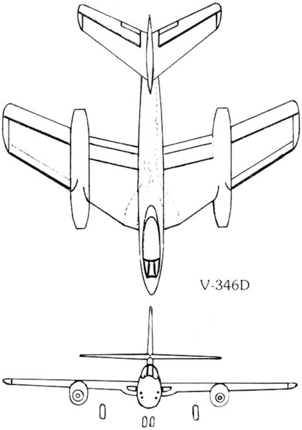


V-346C: Similar to V-346A with the addition of one J-34 engine, giving a weight of 17,500 lbs. and a 9,700 fpm rate of climb, with a top speed of 655 knots.





V-346D: Conventional swept-wing aircraft weighing 20,950 lbs. with three engines of which two were to be mounted in nacelles under each wing and a third in the fuselage, rate of climb would be 7,000 fpm, with a top speed of 610 knots.



DEVELOPMENT

The Navy described the XF7U-1 in an Aviation Circular Letter of June 21, 1946 as "an experimental, tail-less fighter designed for carrier operations and equipped with two 24C turbojet engines. The principal features include swept-back (35°) wings of low aspect ratio, tricycle landing gear, pressurized cockpit, and a fixed gun armament of four twenty millimeter cannon." The engine specification was changed to two J34-WE-32 by the time of the initial fight.

The folding wings are fitted with "ailevators" which combine the function of elevators and ailerons. Since there were no landing flaps, leading edge slats provided the low speed characteristics required for carrier landings. Initially four speed brakes were installed in the XF7U-1. Two were of the clamshell variety mounted on the trailing edge of each wing between the fuselage and vertical tail, while the other two were located under the leading edge of the intake ducts. The forward brakes proved ineffective and were removed.

The main gear of the tricycle landing gear retracted into the lower vertical fin stubs, and the short, single-wheel nose gear gave the plane an incidence angle of 9 degrees on the ground.

The cabin was Voughts first pressurized cockpit and included a Vought designed ejection seat.

After winning the XF7U-1 contract in June of 1946, it took Vought until 10 December 1947 to complete its design work. Then, in September of 1948 the first XF7U-1 was barged to the Naval Air Test Center at Patuxent River, Maryland, in preparation for its first flight. The first flight then took place on 29 September 1948, with Robert Baker at the controls, and without the aid of afterburners. This flight and the ones to follow were sufficiently promising for the Navy to place an order for 14 production F7U-1 aircraft.

As configured for its first flight the XF7U-1 had long instrumentation booms installed on each wingtip. On this first flight and other early flights to follow, Mr. Baker experienced severe vibration due to the booms. In short order the plane was refitted with a single nose boom.

All three XF7U-1s (122472, 122473, 122474) were completed at the Vought Stratford Connecticut plant, while all future F7U-1 and F7U-3 series aircraft would be built at Voughts new Dallas, Texas plant. Also, all three aircraft would be shipped by barge to NATC sans afterburners. This deficiency was corrected late in 1949 at Voughts Texas plant on the #1 and #3 Cutlass.

The #2 Cutlass, 122473, was never fitted with the solar afterburner simply because it was destroyed early in March of 1949. On 18 February 1949, William Millar was returning from a test flight when a landing gear malfunction froze the main gear only six inches out of their wells. The ensuing belly landing caused the aircraft to skid on its nose and rotating main wheels. It took thirteen days to repair the nose gear and gear doors and then after one check flight Millar took #473 up for some aerial photographs. During this Sunday morning hop Millar disappeared. Although Millars body was never found, small parts of wreckage were found in Chesapeake Bay a month later.

While the Solar afterburners being readied, in late 1949, the #1 and #3 XF7U-1s were tested out of Carswell AFB, Fort Worth, Texas for eight months. From here #422 and #424 were moved to a former USAF base at Ardmore, Oklahoma.

The testing at Ardmore established the fact that the XF7U-1 did need two rudders for maneuvering, and also needed the vertical fins lengthened. The two extensions proved their worth by eliminating the planes tendency to "hunt" during flight. This fix was incorporated in the production F7U-1s.

Another test item which was adopted in the F7U-3s but not the F7U-1s was the widening of the trailing edge of the ailevators from one to four inches.

Initial designs for the F7U-1 called for two pylons which could be fitted with 250 gallon tanks to extend the aircraft's limited range. While at Ardmore this configuration was to be tested by Vought pilot Paul Thayer. Two pylons and two dummy tanks were provided for the tests. During one such test Mr. Thayer was attempting a take-off with only one dummy tank installed. He was flying the #1 XF7U-1 which still had the differential rudders installed, thus limiting rudder deflection to about 50% of normal usefulness. Upon liftoff the Cutlass started to roll and yaw and then settled back on the runway. The contact with the ground sheared off the gear and the cartwheeling plane soon broke in two with the wing and engine section sliding past the cockpit. Thayer was unhurt and only required minor medical attention.

Not too long after the demise of XF7U-1 #124472, Thayer flew the #3 bird, #124474, to NATC for an air show. On this date, 7 July 1950, the #3 bird had had many modifications to the afterburners to make them function properly. It is believed that a diaphragm pipe valve could have failed during the demonstration causing the engine fire and loss of the third and last XF7U-1. The Cutlass had just flashed across the field at 600 knots, went into a split S and then into a verticle roll, at which point the tail of the XF7U-1 became a fireball. The Vought ejection seat had not been tested and Thayer did not want to be the Guinea pig, so he attempted to roll the aircraft on its back and drop out. He was unsuccessful in trimming the aircraft and had to finally eject. The ejection was successful, but that was the end of the XF7U-1s.

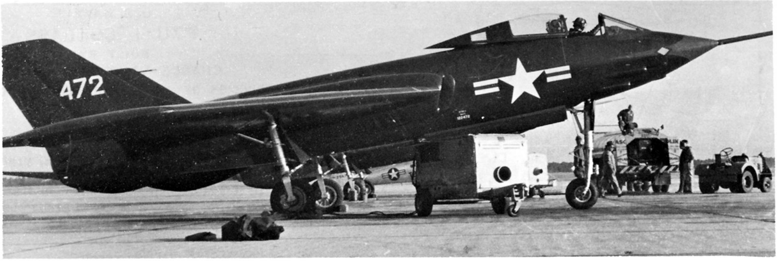
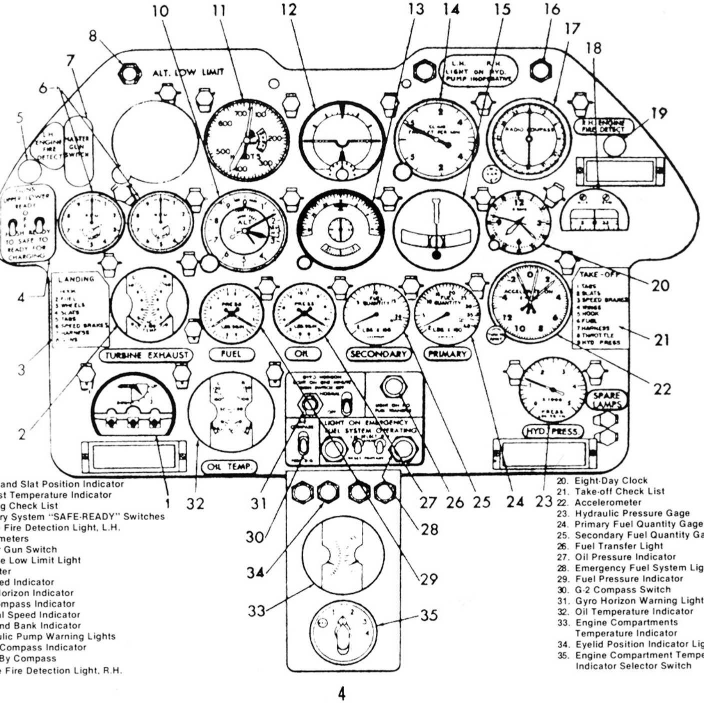


PHOTO ABOVE: #1 XF7U-1, 122472, at Eglin, AFB, Fl. Note that the wing-tip booms have been replaced by a nose boom. Also note red nose flash with yellow diamond. Photo by E. T. Galbraith via Menard.

F7U-1 Instrument Panel


ALT. LOW LIMIT
L.H. R.H. LIGHT ON HYD. PUMP INOPERATIVE
L.H. ENGINE FIRE DETECT
MASTER GUN SWITCH
R.H. ENGINE FIRE DETECT
RADIO COMPASS
KNOTS
ALT.
ACCELERATION
GUNS UPPER LOWER READY OFF FLUSH READY TO SAFE TO READY FOR CHARGING
LANDING
TAKE-OFF
TURBINE EXHAUST
FUEL
OIL
SECONDARY
PRIMARY
OIL TEMP.
HYD. PRESS.
SPARE LAMPS
LIGHT ON EMERGENCY FUEL SYSTEM OPERATING
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35

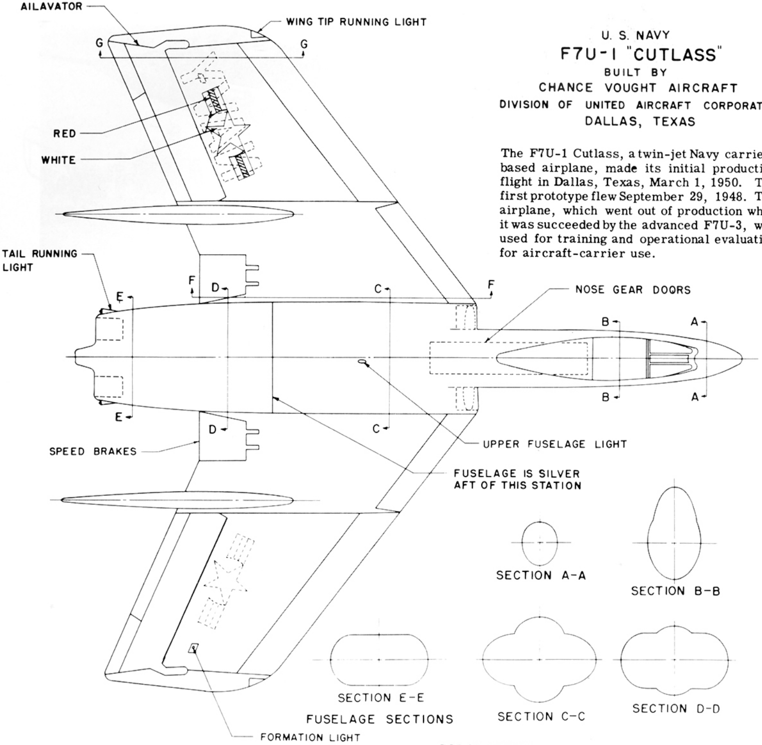
1. Wheel and Slat Position Indicator
2. Exhaust Temperature Indicator
3. Landing Check List
4. Gunnery System "SAFE-READY" Switches
5. Engine Fire Detection Light, L.H.
6. Tachometers
7. Master Gun Switch
8. Altitude Low Limit Light
10. Altimeter
11. Airspeed Indicator
12. Gyro Horizon Indicator
13. G-2 Compass Indicator
14. Vertical Speed Indicator
15. Turn and Bank Indicator
16. Hydraulic Pump Warning Lights
17. Radio Compass Indicator
18. Stand-By Compass
19. Engine Fire Detection Light, R.H.
20. Eight-Day Clock
21. Take-off Check List
22. Accelerometer
23. Hydraulic Pressure Gage
24. Primary Fuel Quantity Gage
25. Secondary Fuel Quantity Gage
26. Fuel Transfer Light
27. Oil Pressure Indicator
28. Emergency Fuel System Lights
29. Fuel Pressure Indicator
30. G-2 Compass Switch
31. Gyro Horizon Warning Light
32. Oil Temperature Indicator
33. Engine Compartments Temperature Indicator
34. Eyelid Position Indicator Lights
35. Engine Compartment Temperature Indicator Selector Switch

U. S. NAVY

F7U-1 "CUTLASS"

BUILT BY
CHANCE VOUGHT AIRCRAFT
DIVISION OF UNITED AIRCRAFT CORPORATION
DALLAS, TEXAS

The F7U-1 Cutlass, a twin-jet Navy carrier-based airplane, made its initial production flight in Dallas, Texas, March 1, 1950. The first prototype flew September 29, 1948. The airplane, which went out of production when it was succeeded by the advanced F7U-3, was used for training and operational evaluation for aircraft-carrier use.


AILAVATOR
WING TIP RUNNING LIGHT
G
G
RED
WHITE
TAIL RUNNING LIGHT
F
D
C
F
NOSE GEAR DOORS
E
B
A
B
A
E
D
C
UPPER FUSELAGE LIGHT
SPEED BRAKES
FUSELAGE IS SILVER AFT OF THIS STATION
SECTION A-A
SECTION B-B
SECTION E-E
SECTION C-C
SECTION D-D
FORMATION LIGHT

FUSELAGE SECTIONS

POWER PLANT

NO. & MODEL	(2) XJ-34-WE-32
MFGR	Westinghouse
AFTERBURN	Integral
A.B.MFGR	Westinghouse

RATINGS

	Lbs. @	Rpm @	Alt.
T.O. (A.B.)	4900	12500	SSL
MIL. (A.B.)	4900	12500	SSL
MIL.	3370	12500	SSL
NORM.	3020	12500	SSL

SPEC. NO. WAGT-X24C10-2

GUNS

No.	Size	Location	Rds.
4	20mm	Nose	800

FIRE CONTROL

AFCS	Mk. 6 Mod. 0

COLOR NOTES

1. Glossy sea blue unless otherwise noted on face of drawing.
2. All letters and numerals are glossy white.

ELECTRONICS

VHF COMM	AN/ARC-1
VHF HOMING	AN/ARR-2A
GUN DIRECTING	AN/APG-30
AUTO.D.F	AN/ARN-6
ALTIMETER	AN/APN-1

FUEL AND OIL

Gal.	No. Tanks	Location
670	6	Wing, Seal
301	2	Fuse, Seal
500	2	Wing, Drop

FUEL GRADE	115/145
FUEL SPEC	AN-F-48

OIL

CAPACITY (Gals.)	10
SPEC	AN-O-9
GRADE	1010

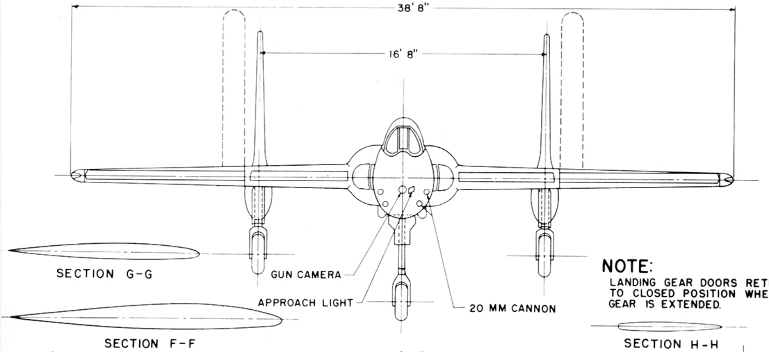
WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	12,837	
BASIC	13,516	
DESIGN	17,700	7.5
COMBAT	17,707	7.5
MAX.T.O	24,000	5.3
MAX.LAND.		
Field	24,000	
Deck	16,500	

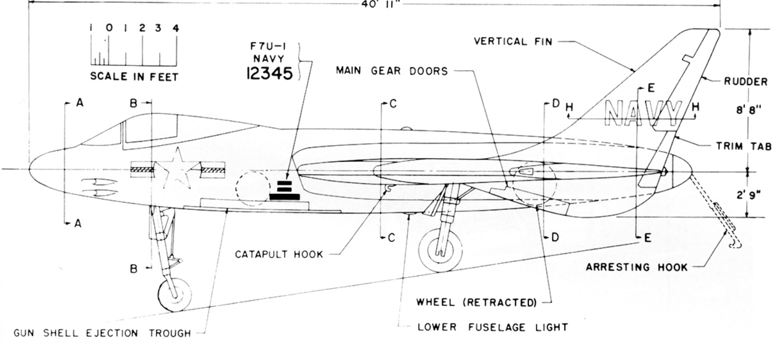
All weights calculated.
See Notes

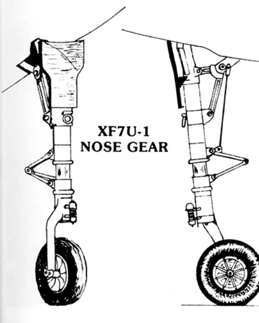
DIMENSIONS

WING AREA	496 sq. ft.
SPAN	38'- 8"
LENGTH	39'- 7"
HEIGHT	11'-10"
TREAD	16'- 8"
M.A.C	12'-10"

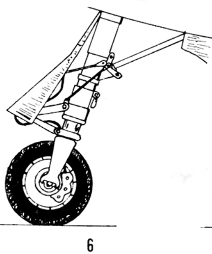

38' 8"
16' 8"
SECTION G-G
GUN CAMERA
APPROACH LIGHT
20 MM CANNON
SECTION F-F
SECTION H-H

NOTE:
LANDING GEAR DOORS RETURN TO CLOSED POSITION WHEN GEAR IS EXTENDED.

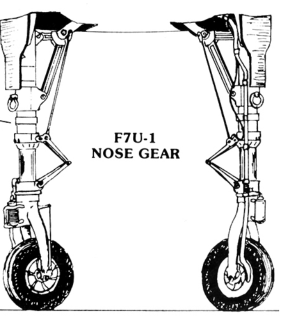

40' 11"
1 0 1 2 3 4
SCALE IN FEET
F7U-1
NAVY
12345
VERTICAL FIN
MAIN GEAR DOORS
RUDDER
A
B
C
D
E
H
NAVY
8' 8"
TRIM TAB
2' 9"
CATAPULT HOOK
ARRESTING HOOK
WHEEL (RETRACTED)
LOWER FUSELAGE LIGHT
GUN SHELL EJECTION TROUGH



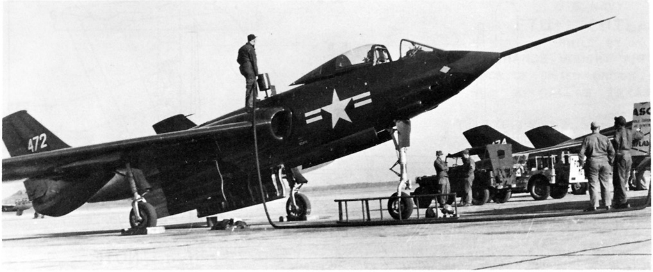
XF7U-1 NOSE GEAR



COMMON MAIN GEAR

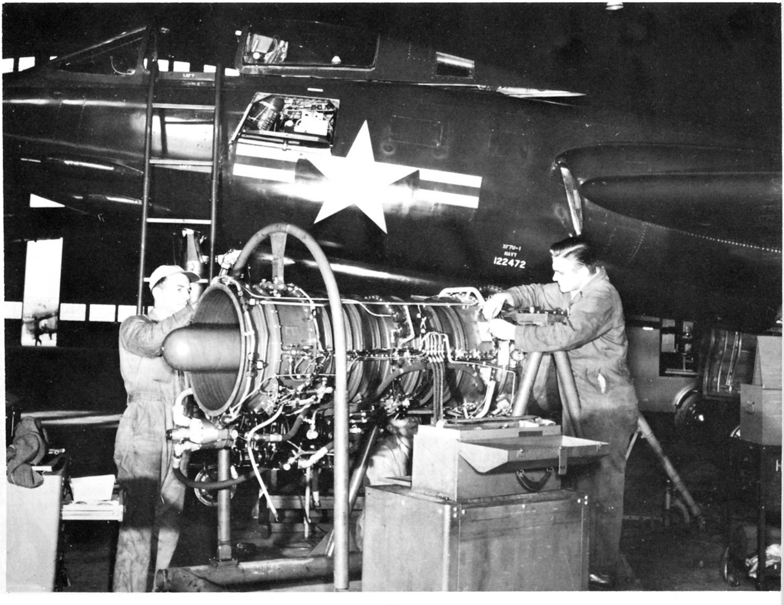


F7U-1 NOSE GEAR



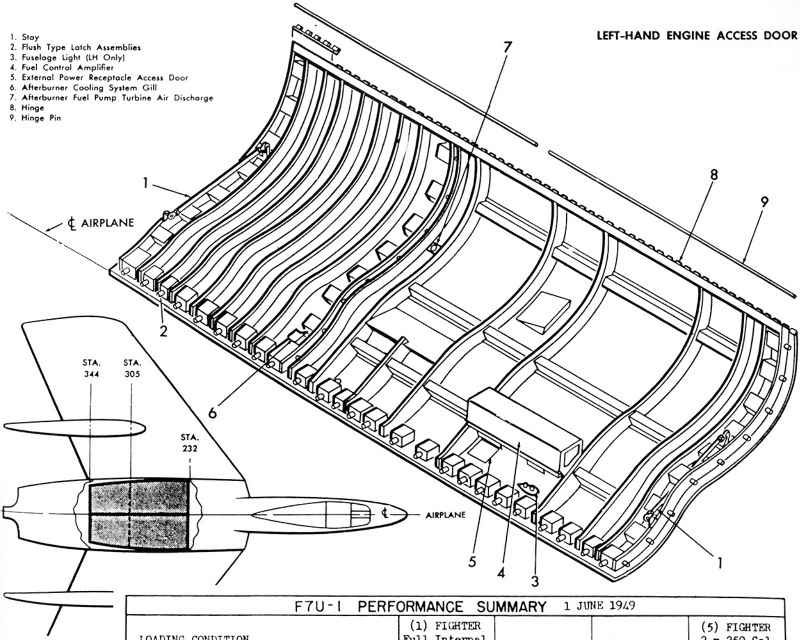
PHOTOS: TOP — Another view of XF7U-1, 122472, at Eglin, AFB, Fl. Note: refueling technique and open engine access doors. Also note XF7U-1, 122474, in background. Photo by E. T. Galbraith via Menard. BOTTOM — Photo of 122472, showing the XF7U-1s engine. Also note access door that is open behind the pilots seat. Photo depicts engine change at NATC on 9 Nov 1948, National Archives photo.

The drawing at right shows the details of the inside of the engine access doors. Once the engine supports were removed on the F7U-1, the engines could be lowered from the plane by using two MK8, Mod 0, portable bomb hoists. These hoists would be installed on top of the fuselage above the engine. The engine would then be lowered to the waiting engine stand seen below.



1. Stay
2. Flush Type Latch Assemblies
3. Fuselage Light (LH Only)
4. Fuel Control Amplifier
5. External Power Receptacle Access Door
6. Afterburner Cooling System Gill
7. Afterburner Fuel Pump Turbine Air Discharge
8. Hinge
9. Hinge Pin

LEFT-HAND ENGINE ACCESS DOOR


7
1
¢ AIRPLANE
8
9
2
6
5
4
3
1
STA. 344
STA. 305
STA. 232
¢ AIRPLANE

STATUTE MILES OR MPH
NAUTICAL MILES OR KNOTS
0
100
200
300
400
500
600
700
800
900
1000
0
100
200
300
400
500
600
700
800
900

F7U-I PERFORMANCE SUMMARY 1 JUNE 1949

LOADING CONDITION		(1) FIGHTER Full Internal Fuel			(5) FIGHTER 2 x 250 Gal. Tanks
TAKE-OFF WEIGHT	lbs.	20,038			23,387
Fuel	lbs.	5,826			5,826/3,000
Bombs	lbs.				
Wing/Power Loading (A)lbs/sq.ft;lbs/bhp.		40.4			47.4
Stall Speed--Power off	kn.	97.3			106
Stall Speed--Power off - No Fuel	kn.	82.2			84
Stall Speed--Power on	kn.				
Maximum Speed/Alt (B)	kn/ft.	496/20,000			458/15,000
Take-off Distance, deck -- calm	ft.	2,300(1,250)			3,640(1,870)
Take-off Distance, deck 25 kn.	ft.	1,363(725)			2,260(1,092)
Take-off Distance, Airport	ft.				
Rate of climb -- sea level (B)	ft/min.	3,900			2,950
Service Ceiling (B)	ft.	38,000			31,500
Time-to-climb 20,000 ft. (B)	min.	9.1			9.9
Time-to-climb 30,000 ft. (B)	min.	16.3			31.0
Combat Range/V av	ft. n.mi/kn.	975/400			1,420/391
Combat Radius/V av	ft. n.mi/kn.	290/400			487/391
LOADING CONDITION		(2) COMBAT	(3) COMBAT	(4) COMBAT	
GROSS WEIGHT	lbs.	17,707	17,707	17,707	
Engine power		Combat	Military	Normal	
Fuel	lbs.	3,496	3,496	3,496	
Bombs/Tanks					
Max. speed at sea level	kn.	602	508	463	
Max. speed/Alt	kn/ft.	602/S.L.	534/15,000	499/20,000	
Combat speed/Alt	kn/ft.	544/35,000	506/35,000	480/35,000	
Rate of climb SL	ft/min.	15,100	5,760	4,570	
Ceiling for 500 fpm R/C	ft.	50,000	40,300	38,000	
Time-to-climb/Alt.	min/ft.	2.8/30,000	8.7/30,000	11.0/30,000	

NOTES

(A) BHP at Maximum Critical Altitude

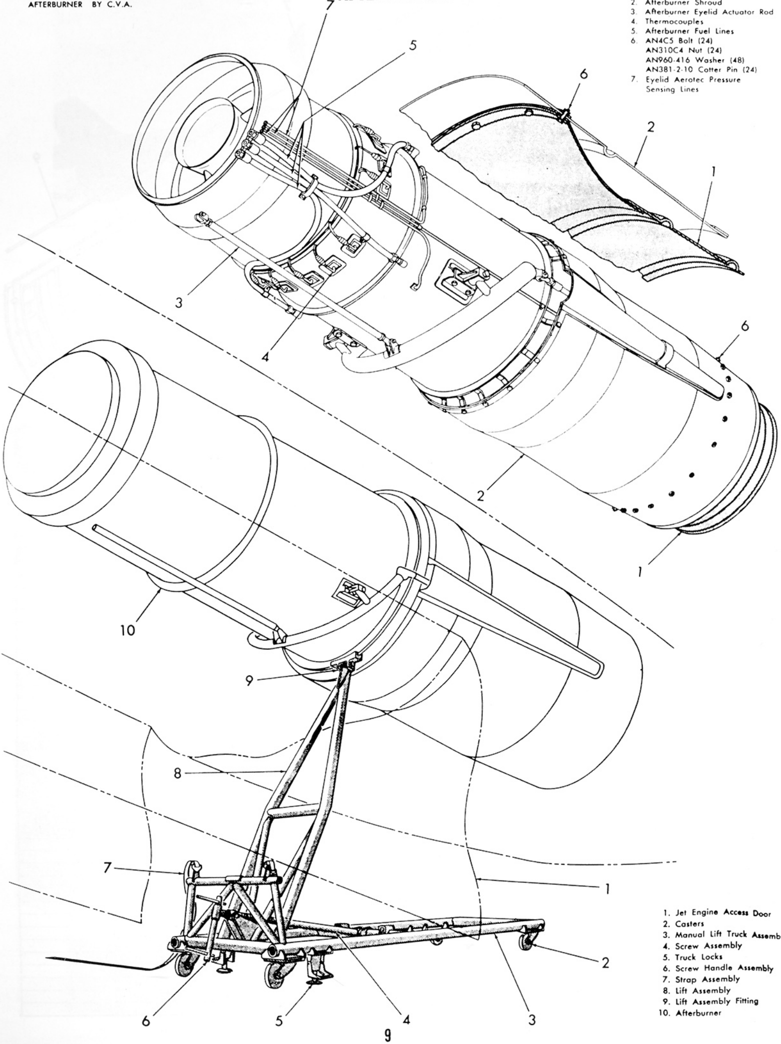
(B) Normal BHP

Take-off distances in parentheses are with afterburner operating.

NOTE: SHADED PARTS ADDED TO BASIC WESTINGHOUSE
AFTERBURNER BY C.V.A.

AFTER BURNER

1. Afterburner Ejector
2. Afterburner Shroud
3. Afterburner Eyelid Actuator Rod
4. Thermocouples
5. Afterburner Fuel Lines
6. AN4C5 Bolt (24)
   AN310C4 Nut (24)
   AN960-416 Washer (48)
   AN381-2-10 Cotter Pin (24)
7. Eyelid Aerotec Pressure
   Sensing Lines



1. Jet Engine Access Door
2. Casters
3. Manual Lift Truck Assembly
4. Screw Assembly
5. Truck Locks
6. Screw Handle Assembly
7. Strap Assembly
8. Lift Assembly
9. Lift Assembly Fitting
10. Afterburner

CONTRIBUTORS

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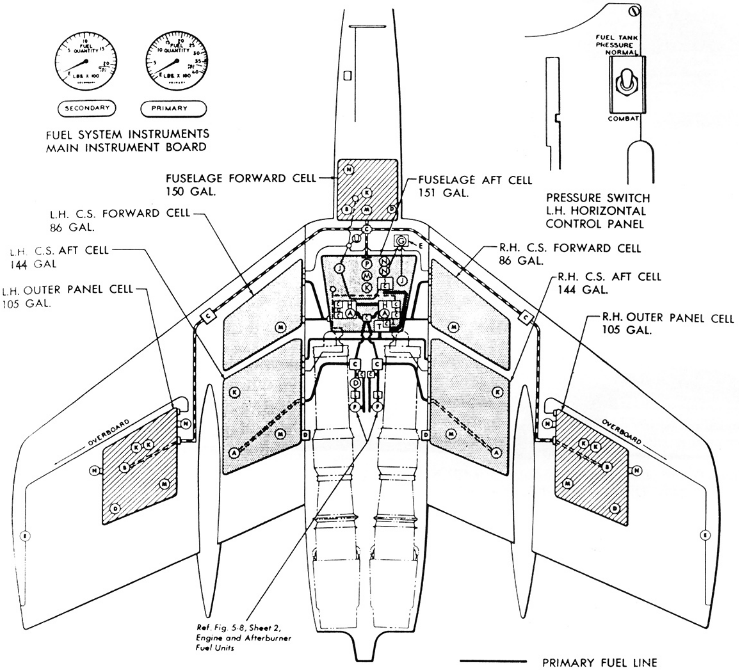
Fuel System Schematic Diagram


SECONDARY
PRIMARY
FUEL SYSTEM INSTRUMENTS MAIN INSTRUMENT BOARD
FUEL QUANTITY
LBS. X 100
FUEL TANK PRESSURE NORMAL
COMBAT
PRESSURE SWITCH L.H. HORIZONTAL CONTROL PANEL
FUSELAGE FORWARD CELL 150 GAL.
FUSELAGE AFT CELL 151 GAL.
L.H. C.S. FORWARD CELL 86 GAL.
L.H. C.S. AFT CELL 144 GAL
L.H. OUTER PANEL CELL 105 GAL.
R.H. C.S. FORWARD CELL 86 GAL.
R.H. C.S. AFT CELL 144 GAL.
R.H. OUTER PANEL CELL 105 GAL.
OVERBOARD
OVERBOARD
Ref. Fig. 5-8, Sheet 2, Engine and Afterburner Fuel Units

▭ PRIMARY FUEL SYSTEM TANK

▨ SECONDARY FUEL SYSTEM TANK

━━ PRIMARY FUEL LINE

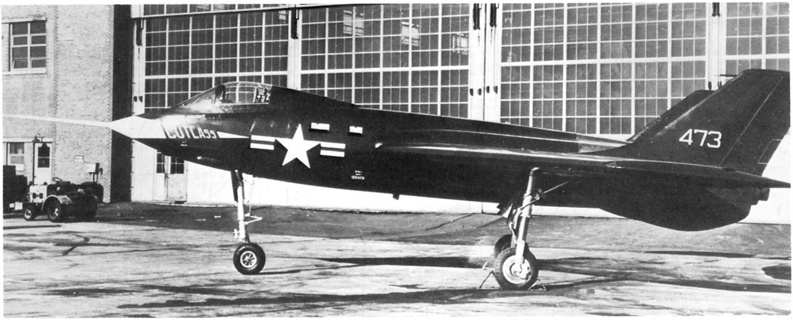
▬ ▬ SECONDARY FUEL LINE

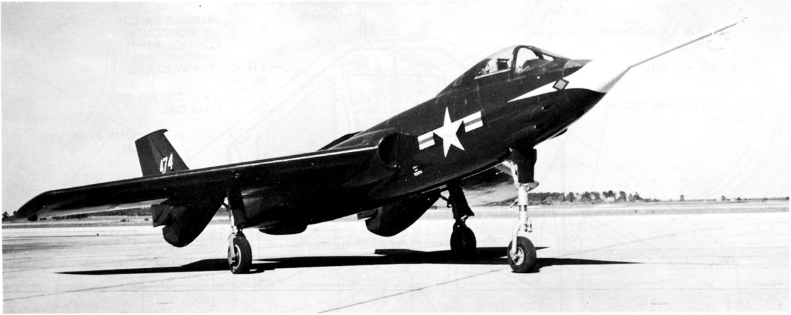
── FUEL CELL VENT LINE

A. Submerged Boost Pump
B. Submerged Transfer Pump
C. Check Valve
D. Defueling Valve
E. Vent Valve
F. Strainer—Fuel
G. Overboard
H. Submerged Boost Pump Housings
J. Cell Vent Connection
K. Fuel Quantity Transmitter
L. Shut-Off Valve
M. Vacuum Relief Valve
N. Filler Cap
P. Float Valve
S. Check Valves and Standpipe
T. Fuel Cell Tee
U. Transfer Fuel Flow Indicator

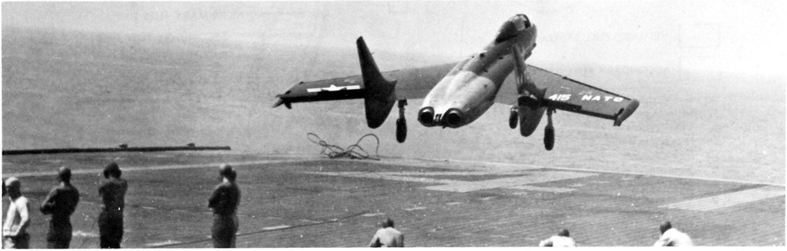
FUEL CELL QUANTITY

Primary System	611 Gal
Secondary System	360 Gal
Total .	971 Gal





PHOTOS: TOP — #2, XF7U-1, 122473, this was the first Cutlass lost in March of 1949. Note main gear is extended and locked, giving aircraft tail-high stance. Nose flash is white with small blue 473, also note the words CHANCE VOUGHT under the windscreen. The light colored rectangles above the star and bar are steps. Photo from Willis Nye Collection via AAHS. MIDDLE — #3, XF7U-1, 122474, overall blue with natural metal gear, nose flash white with red diamond. Note protrusions on instrument boom. Photo via the R. F. Besecker collection. BOTTOM — First Cutlass launch, July 1951, off of the USS Midway (CVB-41), LCDR. Edward L. Feightner pilot. Plane is F7U-1, 124415. National Archives photo.



ACCELERATED CARRIER SUITABILITY TESTS

Carrier suitability tests were conducted with F7U-1 #124415 from 24 June 1950 to 14 August 1951.

As with most aircraft developed in the early '50s the F7U-1 Cutlass program had engine development problems. When F7U-1 #124415 arrived at NATC for the carrier suitability trials, it had J34-WE-34 turbo-jets installed in lieu of the J34-WE-32 afterburning engines. To simulate the weight and balance of the airplane with afterburner engines approximately 1245 lbs. of ballast was required.

Chronological record of the tests:

A. Date of original test directive. . . . . . . 19 May 1950
B. Date model F7U-1, Bu.No. 124415, received by flight test for tests. . . . . 24 June 1950
C. Date test instrumentation installation completed. . . . . 6 July 1950
D. Date all model F7U-1 aircraft grounded. . . . . 7 July 1950
E. Date airplane ungrounded and carrier suitability tests commenced. . . . . 24 August 1950
F. Date shipboard tests commenced. 23 July 1951
G. Date carrier suitability tests terminated. . . . . 14 August 1951

The progress of the project was impeded by the following discrepancies not associated with carrier suitability:

A. Airplane grounded 7 July to 21 August 1950 for investigation, modification and testing of the surface control system.
B. Fuel leaks necessitated eight fuel cell changes.
C. An accumulation of airplane in-flight vibrations attributed in turn to nose wheel unbalance, arresting hook fairing, main hydraulic pumps, loose nose gear strut hinges, and boundary layer duct wall failure, necessitated an investigation and correction program lasting from 7 Nov. to 9 Dec. 1950.

The following unique features are incorporated in this airplane in addition to the conventional arresting and catapulting equipment of carrier-type aircraft:

a. Extendable nose gear oleo which increases airplane static ground angle to 12° - 10′ from 8°-52′ (normal) for catapulting.

b. Two position main landing gear which permits approximately three degree increase in landing attitude when in after position.

c. Nosewheel spin-up which reduces strut drag loads applied in landing.

CONCLUSIONS

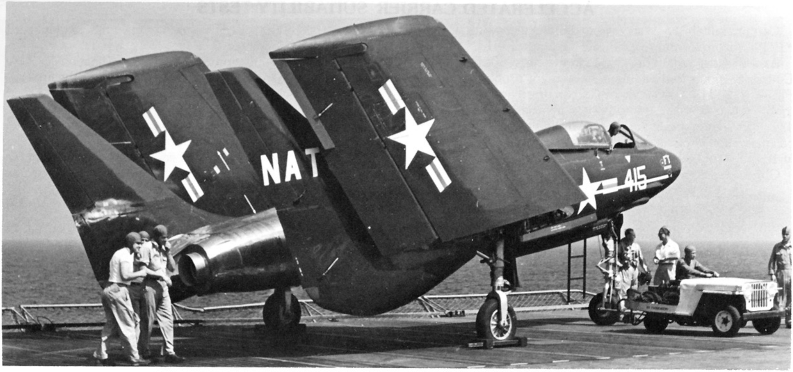
Based on the tests the following conclusions are drawn:

a. The model XF7U-1 airplane can be successfully catapult launched from an aircraft carrier with a take-off airspeed of approximately 119 knots at a gross weight of about 19110 pounds. However, the number of shipboard launchings made were insufficient to determine whether the airplane could be launched at maximum gross weight with twenty-five knots of wind over the deck.
b. The model XF7U-1 airplane is unacceptable and unsatisfactory for shipboard arrested landings because of the following reasons:
    (1) The pilot cannot see the carrier during the final stages of a normal carrier approach.
    (2) It is difficult to consistently obtain impact sinking speeds below design limits in shipboard landings.
c. Special attention of the pilot and signal officer is required in controlling the altitude during the final approach to a carrier-type landing.
d. The wave-off characteristics of the test airplane are unsatisfactory for a wave-off taken in the later stages of the carrier approach.
e. The colmonoy plated integral-type hook point is superior to the detachable-type hook point in resisting loads imposed in off-center landings.
f. The arresting hook assembly is complicated, and its practicability for service use is doubtful.
g. The airplane will satisfactorily engage a free-cable single barrier adapter and cable.
h. The airplane is satisfactory for all normal deck handling operations.
i. The tendency of the nosewheel to become cocked in flight is an unsatisfactory condition.

RECOMMENDATIONS

It is recommended:

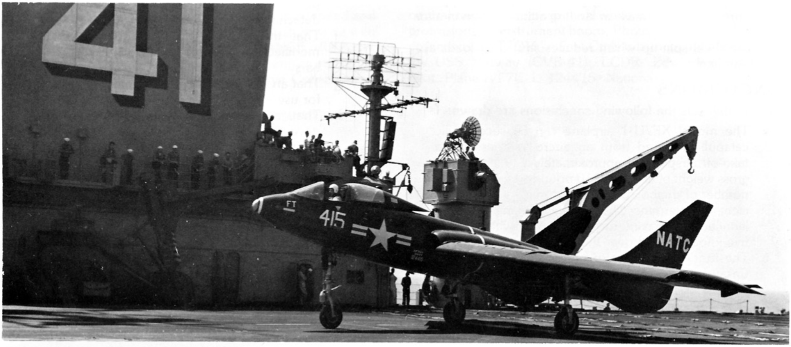
a. That a model XF7U-1 airplane be modified to allow the pilot adequate view of the carrier in the landing approach.
b. That a shipboard test program be established to obtain the following information:
    (1) Effects of improved view on pilot's altitude judgement during the carrier approach, and on his control of impact sinking speed during landing.
    (2) The minimum catapult take-off airspeed with the nose gear oleo in the extended (stiff) condition and in the normal condition but with increased oleo static air pressure.
c. That a technique or aid be developed to facilitate altitude corrections during carrier approach with airplanes having aerodynamic characteristics similar to the model XF7U-1 airplane.
d. That arrested landings be made with the main landing gear of the model XF7U-1 airplane in the aft position.
e. That consideration be given to use of the colmonoy plated integral-type hook point in lieu of the detachable-type in carrier aircraft.
f. That the airplane-mounted holdback fitting be modified to accommodate all standard size tension bars.
g. That an adequate ring retaining boot be developed for use with the tension-ring-type holdback fitting.
h. That a satisfactory bridle stop or catcher be developed.
i. That an investigation be made of the effect of double barrier adapters and cables on nose gear loads during barrier engagements.
j. That the model XF7U-1 airplane nose gear assembly be modified to prevent nosewheel cocking during flight.
k. That adequate clearance be provided between the main landing gear doors and the scissors-mounted brake line swivel to permit the landing gear to extend without jamming.
l. That the effect of rain on the airspeed indications of this model airplane be investigated and that this discrepancy be corrected.

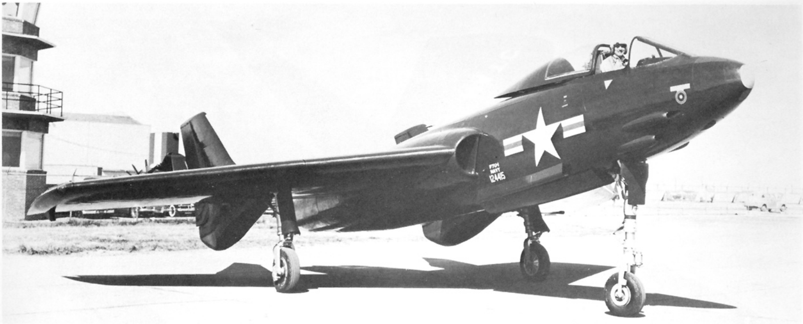


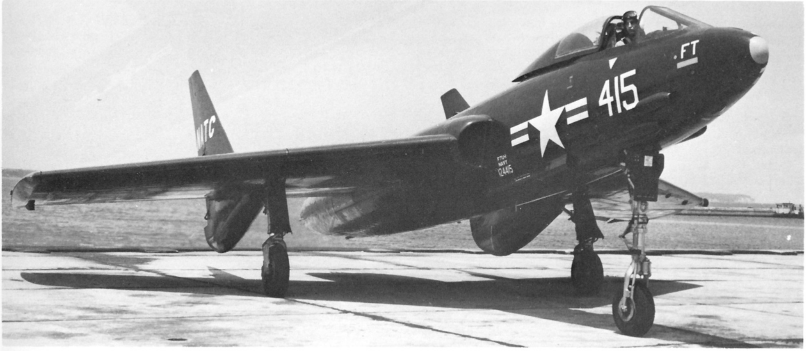
From reading the above conclusions and recommendations it's easy to see why the fourteen production F7U-1s were never put into squadron service. In addition, two of the production F7U-1s were lost before leaving the contractor. The #2 F7U-1, 124416, crashed on 6 July 1950 killing Vought test pilot Warren P. Smith. The crash was caused by control system failure. Then on 28 September 1950 the #3 F7U-1, 124417, was lost when William Harrigan ran off the runway and into Mountain Creek Lake. This particular crash was not due to a mechanical malfunction but was blamed on anoxia.

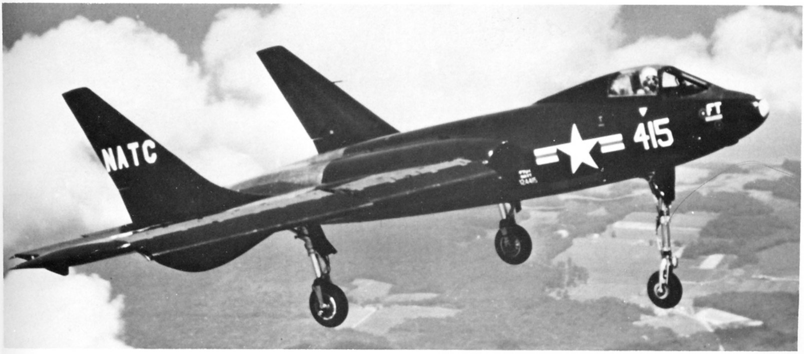
Two F7U-1s, 124426, and 124427, were used by the Blue Angels in 1952. The Blues were flying F9F-5 Panthers, at the time, and the two Cutlasses were mainly used as solo performers. The two pilots, LCdr. Feightner and Lt. Harding C. MacKnight, only had their birds for a short time before they were retired due to parts shortages. Other F7U-1s were used by the advanced training command until they too ran out of parts. After the dash ones were no longer flyable, some were relegated to the Naval Air Technical Training Command at Memphis, Tennessee, where they were used as jet maintenance trainers.

PHOTOS: TOP — F7U-1, 124415, on 25 July 1951, aboard the USS Midway (CVB-41). Note folded wings and white stripe up the side of the fuselage. USN photo via W. T. Larkins. BOTTOM — LCDR. Freightner taxying 415 forward on CVB-41. Note slats are lowered and area under slats is painted red. Also note white stripe around nose and fuselage mid-section, tip of nose is natural metal. National Archives photo. PHOTOS AT RIGHT: TOP — Photo of F7U-1, 124415, at Vought with company pilot W.P. Thayer at the controls. Note short tail fins as used on the XF7U-Is. Vought photo. MIDDLE — Same aircraft at NATC on 9-18-52. Note extended tail fins. H. G. Martin photo via W. T. Larkins. BOTTOM — F7U-1, 124415, in flight with gear and slats down, Aug. 1950, National Archives photo.




124415


NATC
FT
415
124415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FT
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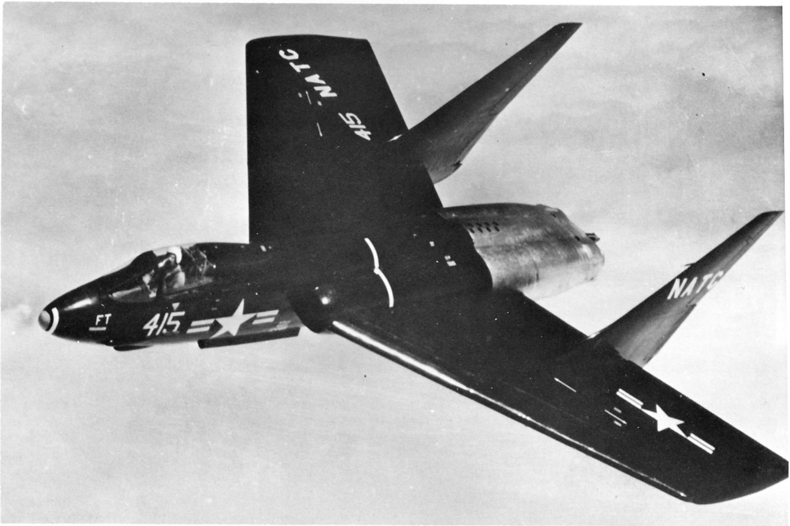
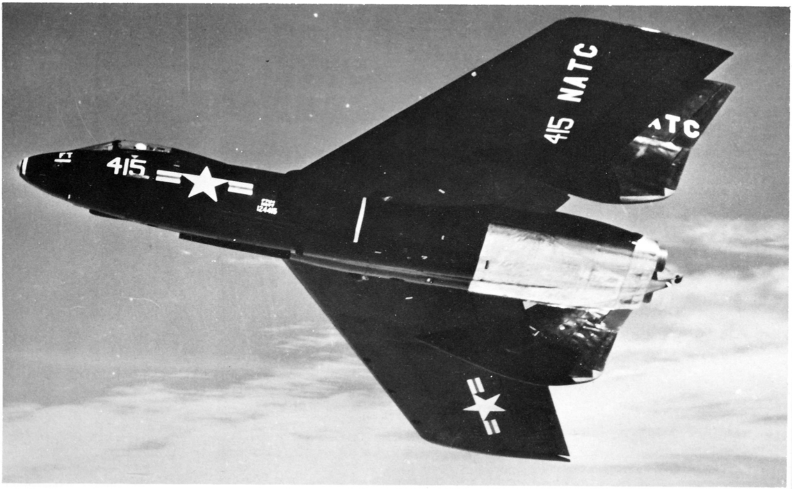

415 NATC
FT
415
NATC


415 NATC
NATC
FT
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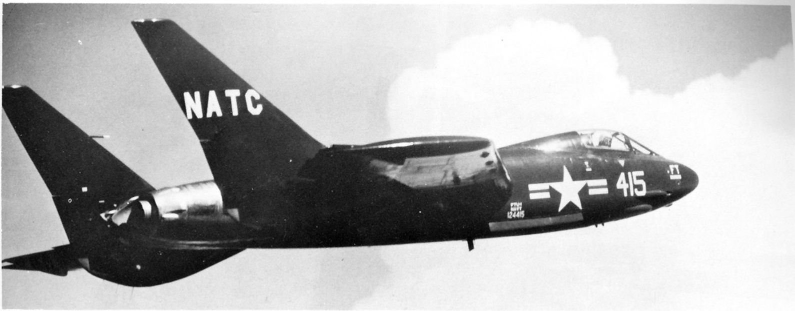
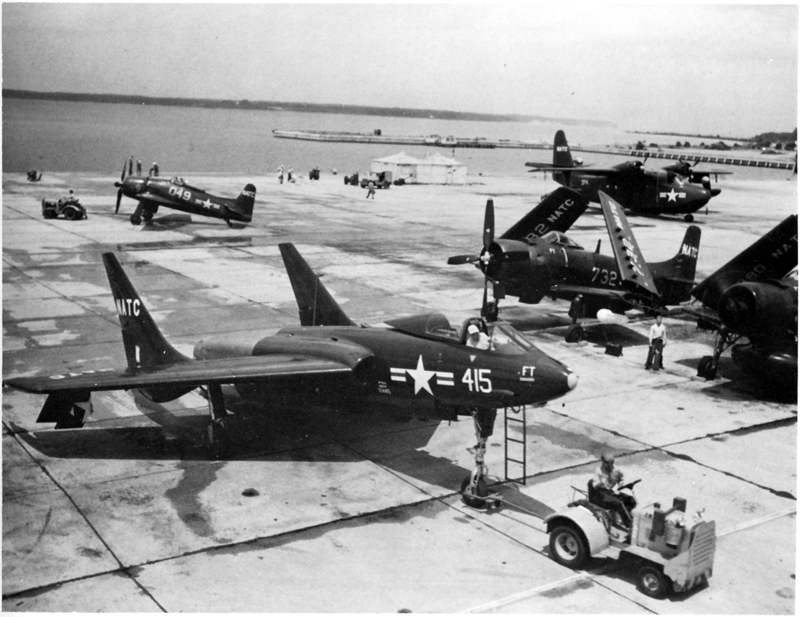
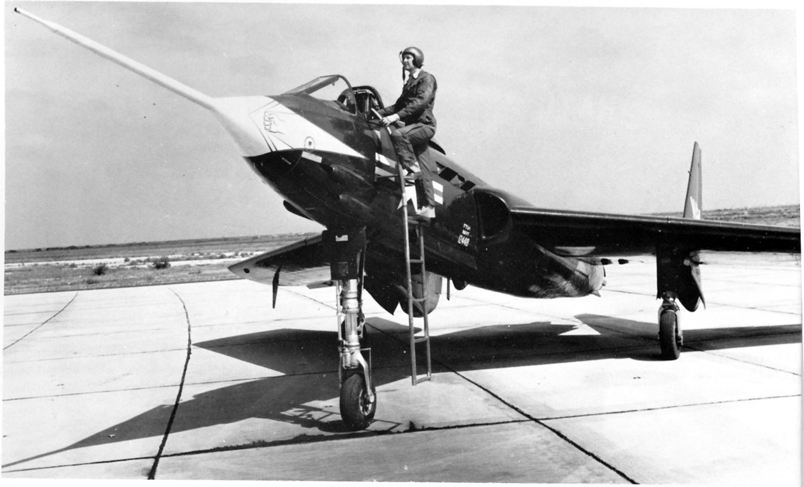
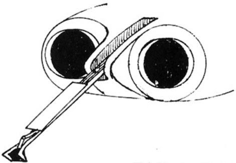


PHOTOS AT LEFT: Upper and lower in flight views of 124415 on Aug. 1950. Notice stenciling on upper and lower wings. National Archives photos. PHOTO ABOVE — Another view of 124415, in flight, in Aug. 1950. USN photo by R. C. Timm via W. T. Larkins. PHOTO BELOW — 124415 being towed at NATC. The FT on the nose stands for flight test. Boarding ladder is red. Note other aircraft being tested, Bearcat, Albatrossand Skyraiders. National Archives photo.

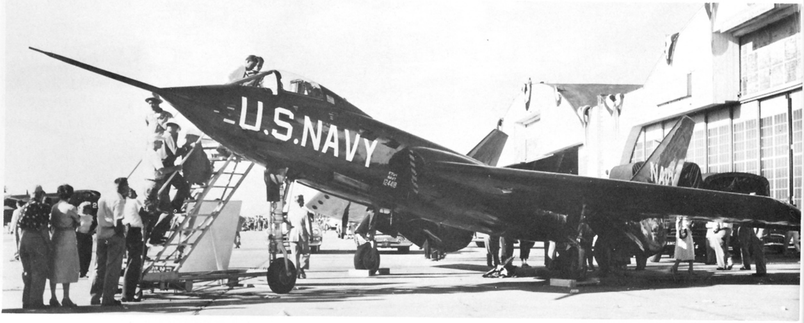




PHOTOS: TOP-LCDR J. W. Ryan climbs aboard F7U-1, 124418, on 15 April 1953, at NAAS Kingsville, Texas. Nose flash is white and yellow with a thin red outline between the blue of the aircraft. National Archieves photo. BOTTOM — F7U-1, 124418, again, in different markings, on 9-5-53, at Dayton, Ohio. Photo by Bill Steeneck via W.T. Larkins. PHOTOS RIGHT: TOP — F7U-1, 124419, in flight. Nose flash is white with red arrow. Also note flat black anti-glare panel and the white checkerboard on the tail fins. Photo via AAHS. MIDDLE — 124419 in 1951. Note tail-cone detail. Photo by Balogh via Menard. BOTTOM — 124419, at the Cleveland National Air Races in Sept., 1951. Photo by Balogh via W.T. Larkins.



TAIL HOOK (extended)



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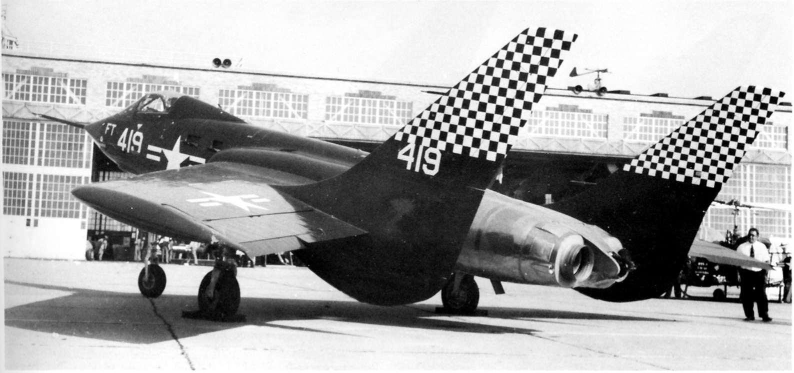
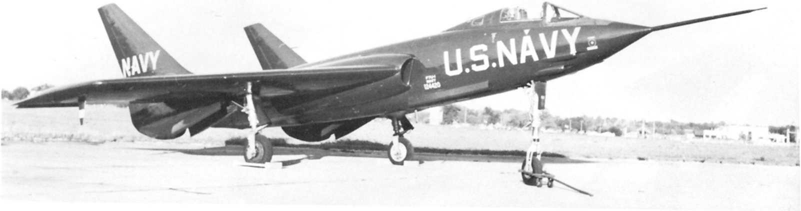
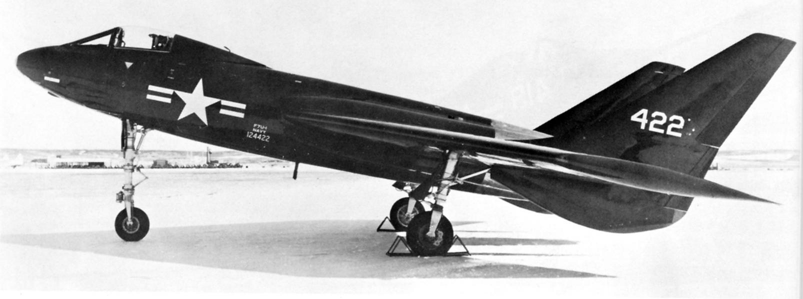

FT 419
419

FT 419


NAVY
U.S.NAVY
F7U-1
124420

422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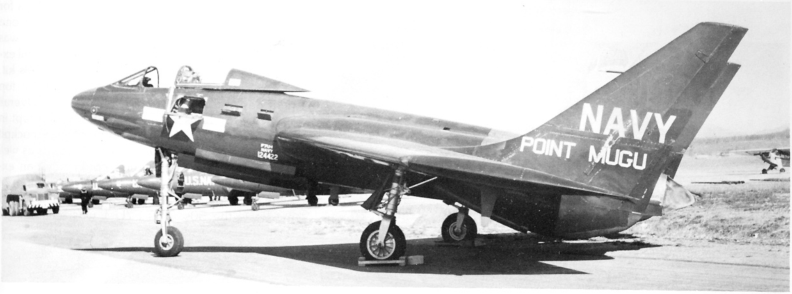
NAVY
124422
422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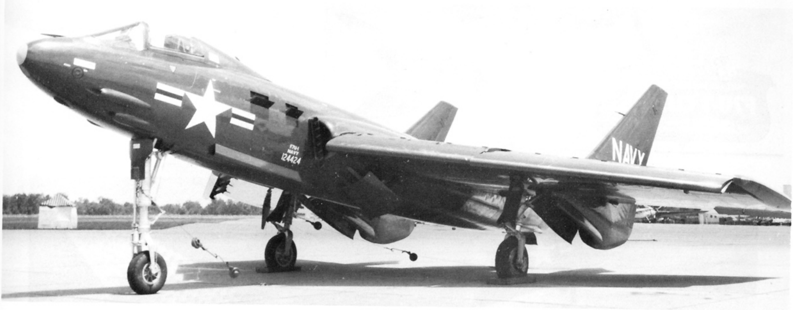
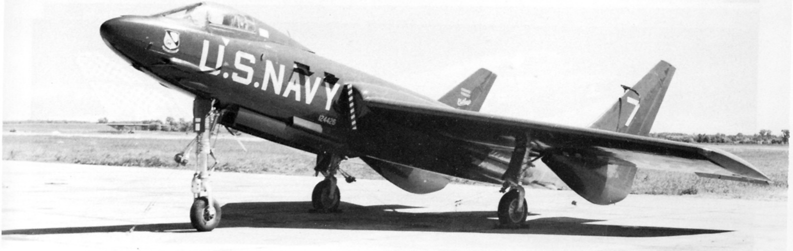
POINT MUGU
F7U-1
NAVY
124422


F7U-1
NAVY
124424
NAVY

PHOTOS AT LEFT: TOP — F7U-1, 124420, note window in aft canopy fairing and note black anti-glare panel. Photo by R. L. Stuckey via W. T. Larkins. MIDDLE — Tail view, and BOTTOM — Side view of F7U-1, 124422. Again note tail-cone. Vought photos. PHOTOS: ABOVE — F7U-1, 124422, in Dec. 1953. Note words POINT MUGU and access door open below canopy. Photo by D. Olson via W. T. Larkins.

MIDDLE — F7U-1, 124424, at Dayton, Ohio, 1954. Note slats are lowered and intake-lip speed brakes are down too. Photo via Swisher. BOTTOM — F7U-1, 124426, at NAS Glenview, Ill., in June 1952. Blue Angels bird, blue with yellow trim. Note chance Vought Cutlass written on inside of fin. Photo by Clay Jansson.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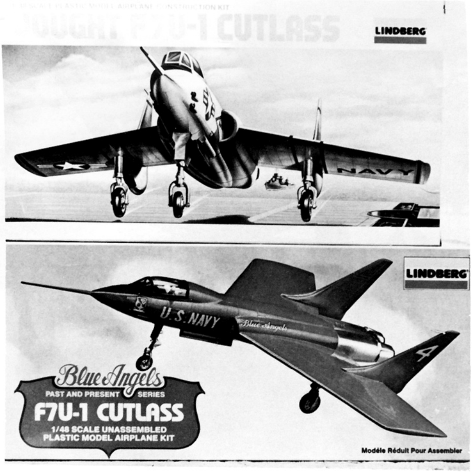
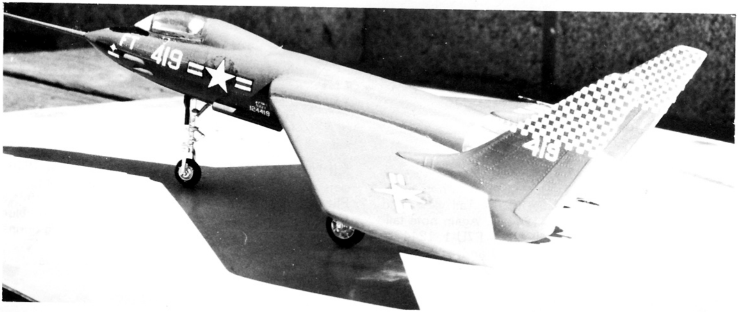
124426
7

F7U-1 IN PLASTIC

Photo at left shows two Lindberg box tops for their 1/48 scale F7U-1 model kit. The top one was released in the 70s and the bottom one was released this year, 1982. The kits are identical except for decals and are a reissue of a 1950s kit. The two photos below and the one at the top right depict the colorful F7U-1, 124419. Overall shape of the kit is accurate to the eye, except in the cockpit profile. With a change of gear, cockpit detailing, and addition of tail-cone scopps as well as installing a tail hook, you could have an excellent model. The two photos at the bottom of page 22 show the 6″ sub scale Lindberg F7U-1 model of the 50s. This F7U-1 was built straight from the box in the 50s.


1/48 SCALE PLASTIC MODEL AIRPLANE CONSTRUCTION KIT
VOUGHT F7U-1 CUTLASS
LINDBERG
NAVY
LINDBERG
U.S. NAVY
Blue Angels
4
Blue Angels
PAST AND PRESENT SERIES
F7U-1 CUTLASS
1/48 SCALE UNASSEMBLED PLASTIC MODEL AIRPLANE KIT
Modèle Réduit Pour Assembler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124419
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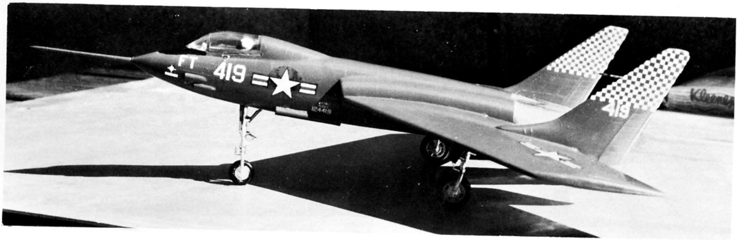
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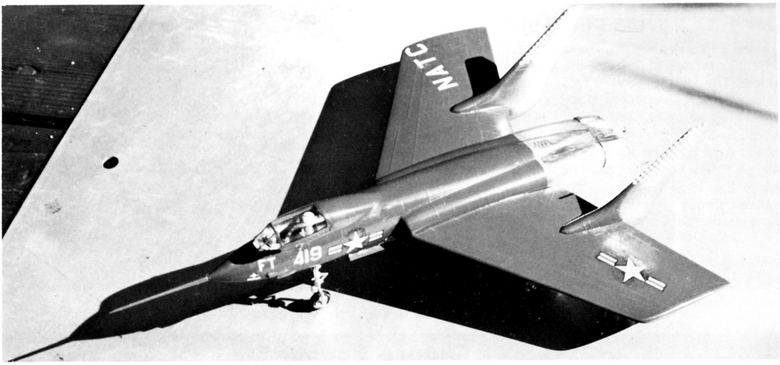
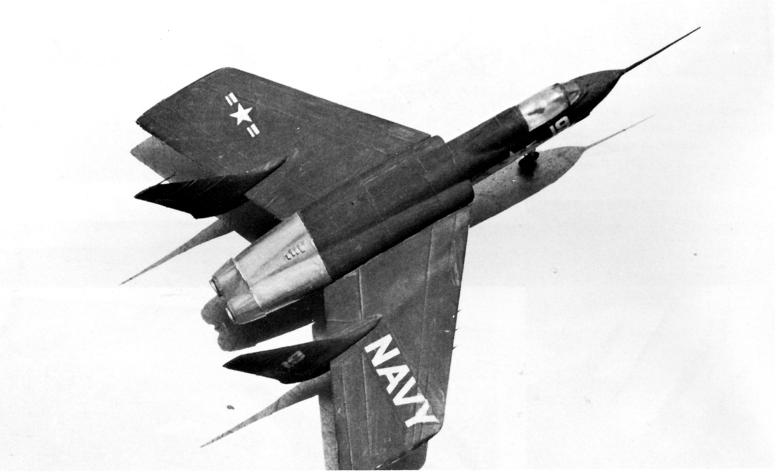

NATC
FT 419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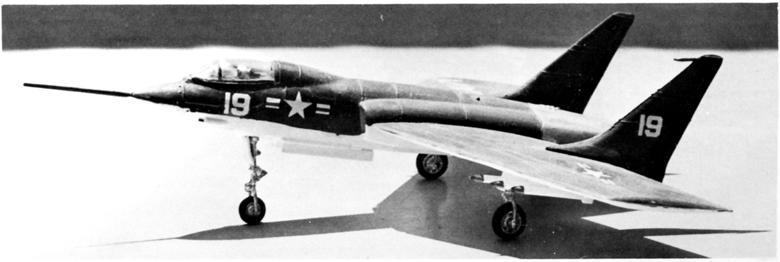
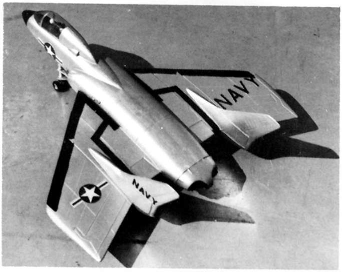
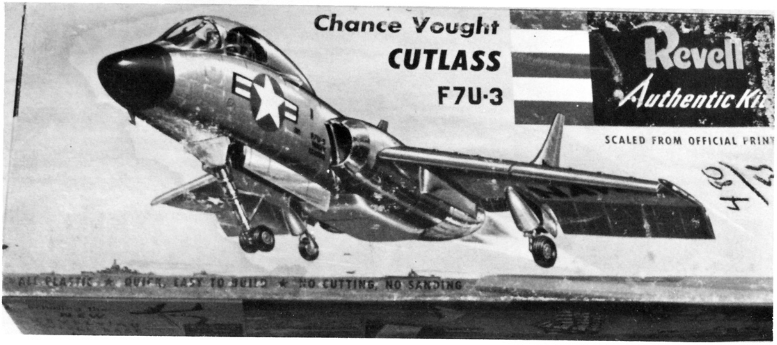
NAVY

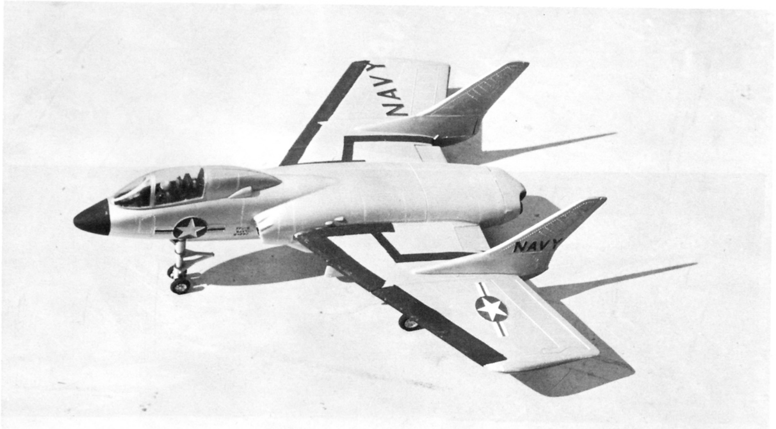

19
19

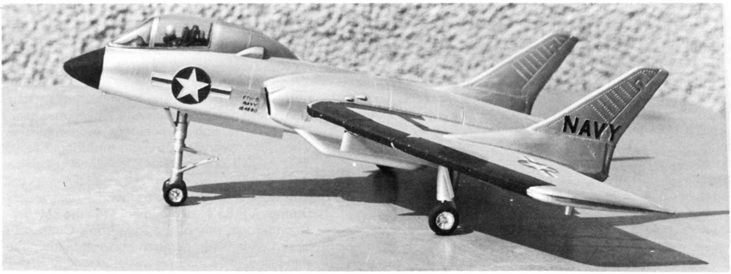
F7U-3 IN PLASTIC

In the 1950s Revell put out a scale F7U-3 model. Like most of Revell's models of that era, the kit was basically accurate in outline. The kit also has the typical heavy rivet detail of the period, along with crude and inaccurate landing gear details. One feature of these early Revell kits that I miss today is the cockpit details with a moulded pilot who is very detailed and usually waveing. The kit is fitted with the early style rocket belly pack. The model pictured here was made stock from the box in the 1950s. In the last decade the kit has become available through Mexico where it had been reissued. The photo on this page shows the 1954 box top.




Chance Vought
CUTLASS
F7U-3
Revell
Authentic Kit
SCALED FROM OFFICIAL PRINT
ALL PLASTIC ★ QUICK, EASY TO BUILD ★ NO CUTTING, NO SANDING





1:72 SCALE VACUUM FORMED MODEL AIRCRAFT KIT

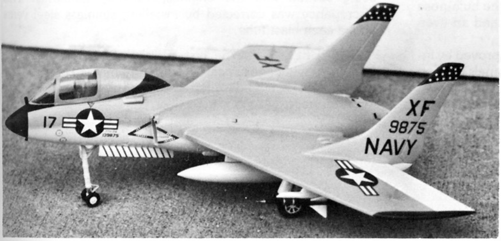
RARE plane VACFORMS

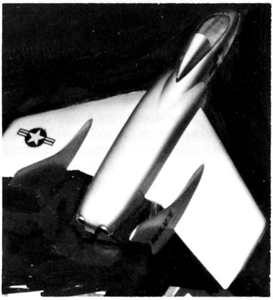
This kit contains highly-detailed vacforms moulded in styrene, clear transparencies, multi-view scale plans, picture and article references, colouring and marking details. You to add decals of your choice.

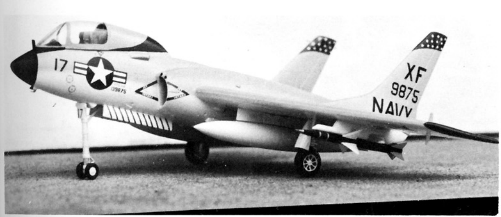
Chance Vought F7U-3 Cutlass

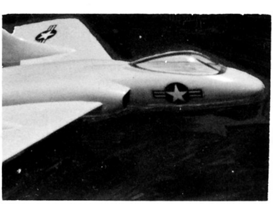
In the 1970's, Airmodel came out with a 1/72 scale vacuform kit of the F7U-3. This kit was followed by an excellent vacuform kit from Rareplane in 1/72 scale. The photos below show a Rareplanes kit built by Bill Lindberg of Brookhurst Hobbies. The model depicts a F7U-3M of VX-4 in the grey and white paint scheme. The kit provides all the parts to build the F7U-3 or F7U-3M, but is lacking the modified air intake used on the 3Ms. It would also have been nice to have had the photo nose includd in the kit.

Photos below right, are of manufacturer display models in the Bob Lawson collection. Top one is production F7U-3, BOTTOM bulb-nosed.









THE F7U-2

Very early in the flight test program it became evident that the F7U-1 had some shortcomings. Vought submitted its V-366 proposal to the Navy on 1 November 1948. Based on this proposal the Navy placed an order for 88 F7U-2 aircraft on 23 September 1949. The F7U-2s were assigned BuNos. 125322-125411, but were cancelled before any were built in favor of the F7U-3 design.

F7U CUTLASS PROCUREMENT

Model	Number	1948	1950	1951	1952	1953	1954	1955	Bureau Numbers
XF7U-1	3	3							122472-122474
F7U-1	14		4	9	1				124415-124428
F7U-3	28				10	18			128451-128478
F7U-3	152					**64**	**68**	**20**	129545-129612; 129613-129676; 129678-129697
F7U-3P	12						6	6	129745-129756
F7U-3M	98					1	47	50	129677, 129698-129744; 139868-139917
TOTAL	307	8	4	9	11	83	121	76	

THE F7U-3

At the same time Vought submitted a design proposal for the F7U-2 on 1 November 1948, it also submitted a proposal for the bigger, faster and more versatile F7U-3. The production contract was awarded on 21 August 1950 and the first flight was made on 12 December 1951 from Dallas with John McGuyrt at the controls.

The F7U-3 incorporated many changes over the F7U-1 to alleviate its shortcomings. Aside from the basic improvements in speed , performance, maneuverbility, armament and range, the F7U-3 incorporated many structural, maintenance and stafety improvements.

One of the F7U-1s biggest problems was pilots' lack of visibility during approach and landing. This problem was attacked by hunching up the cockpit on the first 16 bulb-nosed F7U-3s. This fix was still not adequate and was further corrected in the production aircraft by eliminating the bulb-nose and replacing it with a smaller sloping radome and an even more hunched up cockpit.

Serviceability and maintenance was greatly improved by installing over a hundred more access doors and panels than on the F7U-1. In addition, all electrical lines were run on the right side of the fuselage with most of the hydraulic lines on the left. To facilitate maintenance of these systems, large access doors were installed outside the fuselage and the tail cone was made removable.

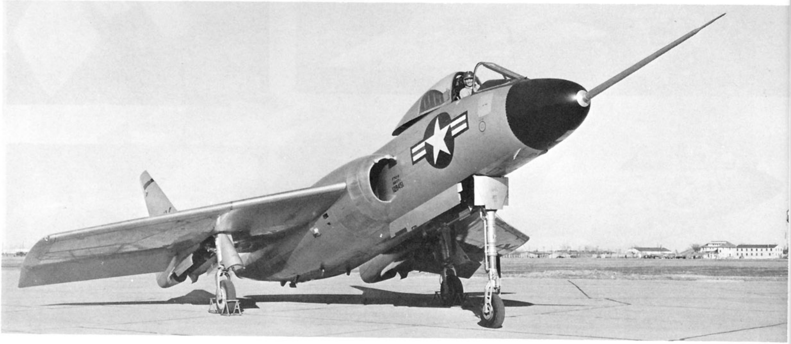
The first sixteen F7U-3s were built without the benefit of the results of the F7U-1 carrier suitability tests stated earlier. As built, these sixteen had a single wheel nose gear similar to the F7U-1s. The single wheel was soon replaced with a dual wheel unit of greater strength and longer length. However, nose gear problems would continue to plague the F7U-3 throughout its service life. The problem was basically one of whiplash, caused when the wheels first touched the deck. During VF-81's deployment to the Med., aboard the Ticonderoga, one of the squadron's Cutlasses nose ger collapsed on landing. As attempts to strengthen the gear aboard ship failed, the squadron was offloaded at NAS Port Lyautey. VA66 and VA-83 were also too encounter these problems. Like VF-81, nose gear failure caused VF-124 to off-load most of its Cutlasses at NAS Barbers Point.

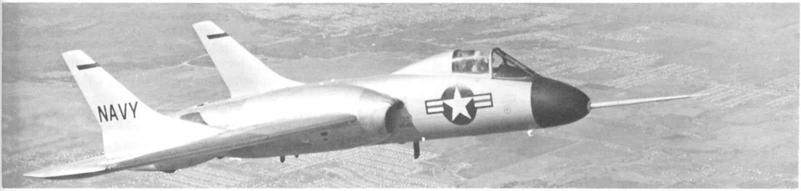
Because of engine development problems the first sixteen F7U-3s were equipped with two Allison J-35-A-29 non-afterburning engines instead of the required Westinghouse J-46-WE-8 jets of 6,000 lbs. thrust. When the J-46 did become available, the air intakes had to be enlarged to provide more air for the engines.

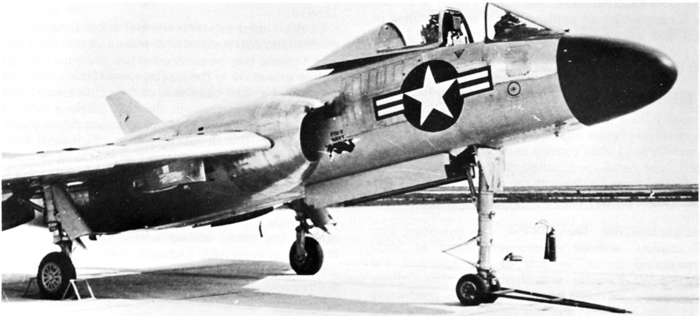
The F7U-1s were not structurally strong enough for Navy operations, but the F7U-3 was designed like the proverbial Sherman tank. The plane was stressed for 7 Gs and pilots had been known to have pulled in excess of 9Gs.

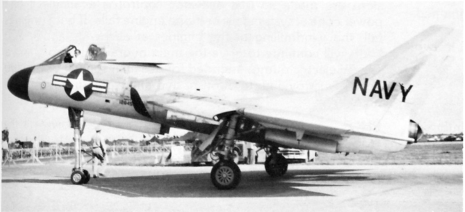
Armament for the F7U-3 differed from the dash one, in that, the four Mk.12 20mm cannons were moved to the upper lip of the jet intake. The guns' 720 rounds were guided by a Mk.8 gunsight, APC-30 ranging radar and a Mk.6 fire control system. This new gun location was not without its problems. When firing the guns, gases and unburned powder was being sucked into the engines, causing flameouts. This discrepancy was corrected by installing stainless steel vents above each blast tube.

PHOTO BELOW — The first F7U-3, 128451, with F7U-1 type single wheel nose gear and no armament. This is one of the first sixteen F7U-3s referred to as bulb-nosed. Note test boom on nose. Vought photo via Craig Kaston.

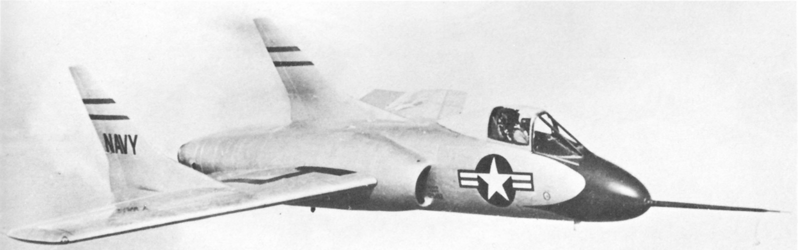








PHOTOS: TOP — First F7U-3, 128451, overall natural metal with black radome, dark grey anti-glare panel and red fin stripes. Vought via Kaston. ABOVE — Censored photo showing the new dual steerable nose wheel. Note intake shape. Photo via Nicolaou. LEFT — Bulb-nosed F7U-3, 128459, with reshaped intake, in 1953. Balogh via W. T. Larkins. BOTTOM — #2 F7U-3, 128452, with red nose and red fin stripes, gray canopy and black walkways. Via Kaston.



F7U-3 CARRIER SUITABILITY TESTS

F7U-3, Bu. No. 128454, was assigned for carrier suitability tests. This was the number 4 production airplane but was structurally representative of only the first sixteen production airplanes. Initial shore based carrier suitability tests of Bu.No. 128454 in the clean configuration were conducted jointly by the contractor and the Naval Air Test Center. Tests were culminated in Naval Air Test Center tests aboard the USS MIDWAY. Pertinent data has been accepted as partial fulfillment of the service acceptance trials. After the USS MIDWAY evaluation, shore based tests were continued with the airplane in the clean configuration and with external store loading conditions. The clean and tore configurations were then evaluated aboard the USS CORAL SEA. Additional carrier suitability tests were scheduled on an airplane that is representative of number 25 and subsequent production airplanes. All tests scheduled for Bu. No. 128454 have been completed and are the subject of this report.

DESCRIPTION OF AIRCRAFT

The model F7U-3 is a single place, twin-jet propelled, general purpose day fighter airplane designed to operate from CVA-34 and CVA-41 class carriers and/or from an ordinary landing field. The detail specification states that the airplane shall take off from these carriers with the aid of the H8 or H4-1 catapults and shall land aboard these carriers into a Mark 5 arresting gear.

The test airplane, Bu. No. 128454, was equipped with J35-A-29 engines, without afterburners, rated at 5600 pounds maximum thrust, in lieu of the specified but unavailable J46-WE-2 engines with afterburners. The airplane was representative of only the first sixteen production airplanes in catapulting and arresting geometry, power plant installation and airplane structure and was representative of only the seventeenth and subsequent airplanes in nose profile and cockpit arrangement. The test airplane was not equipped with armament.

Model F7U-3 airplane, Bu.No. 128454, was tested in two distinct configurations, hereafter called configurations "A" and "B", each representative in thrust line and center-of-gravity position of a specified group of production airplanes. As delivered in configuration A, the test airplane was representative of the first sixteen production airplanes in center-of-gravity position and thrust line but was not equipped to carry external stores. After modifications by the contractor into configuration B. the airplane was representative of the seve teenth and subsequent airplanes in center-of-gravity positio and thrust line and was equipped to carry a rocket pack on th fuselage centerline and up to one 2,000 pound store on eac of two pylons. Other changes were incorporated in configur tion but are not mentioned inasmuch as they did not affect th carrier suitability of the aircraft.

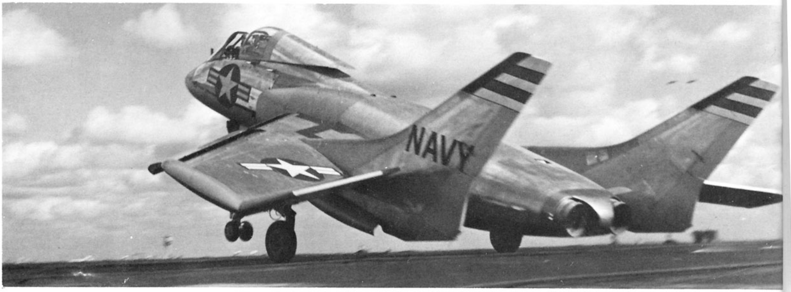
Neither configuration A nor B were representative of th 25th and subsequent airplanes because changes to the landin gears, arresting hook, fuselage structure and other ite affecting the carrier suitability of the airplane are being inco porated by the contractor at various points in the productio line. The earliest airplane to incorporate all the pertinent ca rier suitability changes is number 25, airplane Bu. N 128475.

Fuel is stored in seven internal self-sealing cells which ar divided into two systems, the main and transfer fuel system The airplane may be serviced at two pressure fueling adapte on the underside of the fuselage, one for each system, or th cells may be filled by means of the conventional filler necks.

All fuel passes through the mid fuselage tank. All mai system fuel flows by gravity to the engine driven pumps excep for that from the aft fuselage tank which must be pumped Transfer of the transfer system fuel is accomplished by pump ing in either an automatic sequence or in a sequence manuall selected by the pilot.

Longitudinal and lateral control in flight are accomplishe by a single pair of surfaces called ailavators located on th outer wing panel trailing edges which are pilot-operate through an irreversible hydraulic powered control system wit artificial mechanical feel. Hydraulic pressure for ailavator control is supplied by two sources (power control system Nos. and 2). The two systems function simultaneously under normal conditions, each system deriving pressure from a larg pump on one engine and a smaller pump on the other. Provisions are made so that ailavator control is available if on power control system fails or if one engine fails. If both engine fail, the windmilling of the engines at airspeeds above 20 knots will continue to drive the main hydraulic pumps, and special electric pump, intended for use at airspeeds below 20 knots, is provided to furnish hydraulic pressure for thre minutes.

PHOTO BELOW — F7U-3, 128454, touches down on th USS Coral Sea (CVB-43) in Nov. 1952. Note angle of attac and extended slats. National Archives photo.



RECORD OF TESTS

The following is a chronological record of the tests:

a. Date of test directive	28 Apr 1952
b. Date of test airplane arrival	2 Jul 1952
c. Date flying began	3 Jul 1952
d. Date of tests aboard USS MIDWAY	11-15 Aug 1952
e. Date airplane returned to contractor	20 Aug 1952
f. Date airplane returned to NATC	25 Sep 1952
g. Date tests resumed	29 Sep 1952
h. Date of tests aboard USS CORAL SEA	4-6 Oct 1952
i. Date flying completed	8 Nov 1952

CONCLUSIONS

It is concluded that:

a. The structural integrity for carrier type operations for subsequent production airplanes has not been proven by these tests.

b. Main landing gear loads will probably be excessive during heavy gross weight catapult launchings at design limit accelerations.

c. The test airplane is satisfactory for catapult launchings and arrested landings up to the limits tested.

d. Geometry of the arresting hook installed on later production airplanes has not been evaluated.

e. Geometry of the arresting hook installed on the test airplane is satisfactory provided that the modified hook point is used.

f. The final fin stub contours evaluated on the test airplane are satisfactory for arrested landing.

g. Hoisting provisions are satisfactory.

h. Leveling procedures for weight and balance purposes are unsatisfactory.

i. Fuel gage indication is excessively in error when over 2000 pounds of fuel are carried.

j. The amount of fuel trapped and unavailable in low-speed flight is excessive.

k. The catapult holdback, NAF 402404-1, is unsatisfactory.

l. Nosewheel castering characteristics are unsatisfactory.

m. Cockpit turbulence of the test airplane in configuration B is unacceptable during low speed flight.

n. The aft towing bar provided by the contractor is impractical and unsatisfactory.

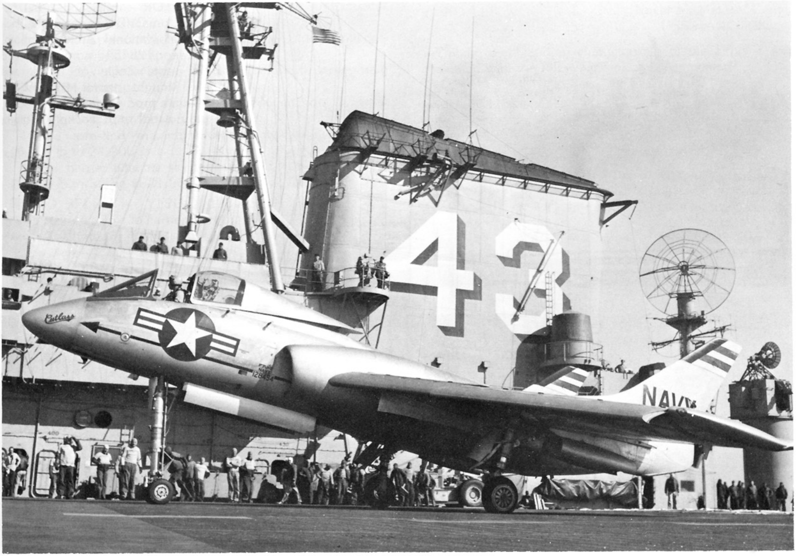
o. Provisions for supplying braking pressure, when the engines are not operating, are inadequate.

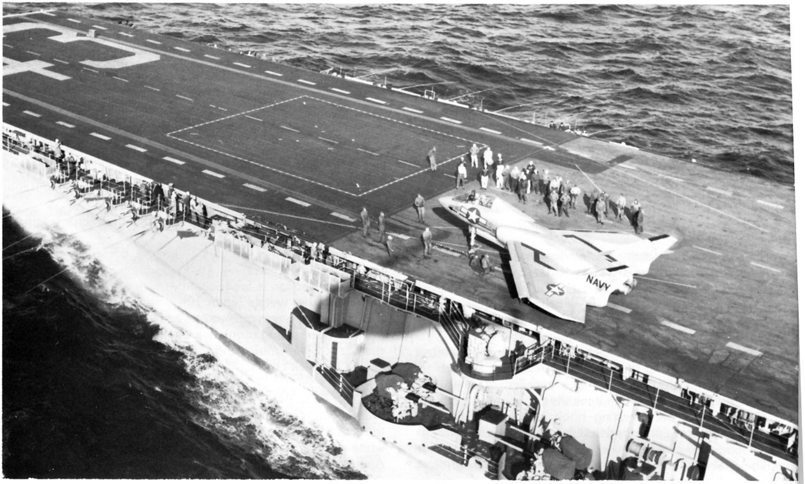
p. Tire traction is inadequate at a tire pressure of 220 psi and light gross weight when 100% thrust is applied.

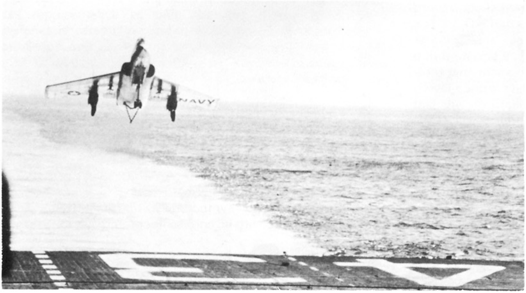
q. Slat extension guide arms are subject to corrosion.

r. Deck handling requires a tractor with more traction than the Clark CN44 mule, and the aircraft cannot be handled on carrier by deck crews.

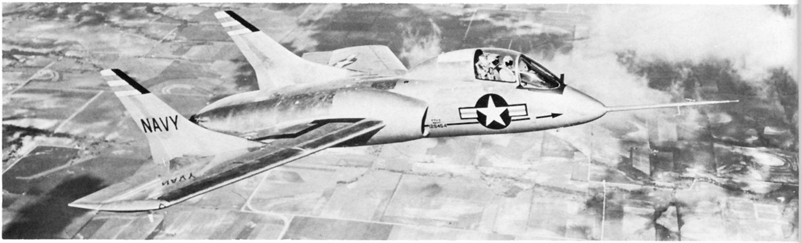
PHOTO BELOW — Note, though 128454 has the nose contours of the production airplanes, it still has the cockpit contours of the first 16 aircraft. Tail colors are black leading edge, white and red stripes separated by thin blue lines. National Archives photo.







PHOTOS: TOP — F7U-3, 128454, being spotted on CVB-43s cat, note black wing walks. National Archives photo. MIDDLE — 128454, coming aboard CVB-43, note angle of attack and tailhook. Vought photo. BELOW — 128454, with production cockpit added, note gray panel atop cockpit. Vought photo.



SECOND F7U-3 CARRIER SUITABILITY TESTS

We have seen the results of the carrier suitability tests of F7U-3 airplane, BuNo 128454, which was representative of the first 16 production airplanes. This report is the second and final report of the carrier suitability tests, and contains the results of tests of YF7U-3 airplane, BuNo 128475, which is representative of the seventeenth and subsequent production airplanes. The YF7U-3 airplane, BuNo 129567, was assigned for barrier tests.

Tests were conducted at the Naval Air Test Center, Naval Air Material Center, and aboard USS CORAL SEA (CVA-43), USS LAKE CHAMPLAIN (CVA-39) and USS HANCOCK (CVA-19). Tests aboard USS HANCOCK were conducted to evaluate the C-11 steam catapult and the MK 7 Mod 1 arresting gear. Two additional F7U-3 airplanes, BuNos 129552 and 129638, were employed aboard USS HANCOCK and pertinent qualitative data related to these airplanes are included in this report.

DESCRIPTION OF AIRPLANE

The test airplane was representative of the seventeenth and subsequent production airplanes and differed in the following respects from the first sixteen production airplanes.

a. The engines were changed from J35-A-29 to J46-WE-8A engines rated at 5500 lb. maximum thrust.

b. The test airplane was equipped with a pilot operated steerable nosewheel.

c. The fuselage and main gear weight was reduced.

d. The arresting hook geometry was changed.

e. The main system aft fuselage tank was modified to reduce the amount of trapped fuel, and the fuel transfer scheduling was changed.

f. The wing pylon structure was strengthened to permit carrying heavy special weapons.

g. The power lever quadrant was changed to incorporate MAXIMUM thrust position.

h. The arresting limit strength was reduced from 4.55g at 22,765 lb to 4.2g at 21,065 lb.

i. The arresting maximum weight was reduced from 26,180 lb to 24,200 lb.

j. The barrier ultimate strength was reduced from 5.8g at 22,765 lb to 5.45g at 21,065 lb.

PHOTO BELOW — YF7U-3, 128475, on the USS Coral Sea's elevator prior to carrier tests on 29 Oct. 1953. National Archives photo.

RECORD OF TESTS

A chronological record of the tests follows:

a. Date of test directive	15 Mar 1952
b. Test airplane arrived	28 Sep 1953
c. Flying began	1 Oct 1953
d. Tests aboard USS CORAL SEA	26-30 Oct 1953
e. Airplane out of commission for engine change and thrust instrumentation installation	18 Nov 1953
f. Tests resumed	15 Jan 1954
g. Tests aboard USS LAKE CHAMPLAIN	8-13 Feb 1954
h. Airplane out of commission for flushing hydraulic system	24 Feb 1954
i. Tests resumed	14 Mar 1954
j. Airplane grounded by reference (d)	19 Mar 1954
k. Tests resumed	18 Apr 1954
l. Tests at the Naval Air Material Center	5 May 1954
m. Tests aboar USS HANCOCK	14 Jun to 30 Jul 1954
n. Barrier tests	24-30 Aug 1954
o. Flying completed for tests discussed herein	12 Oct 1954

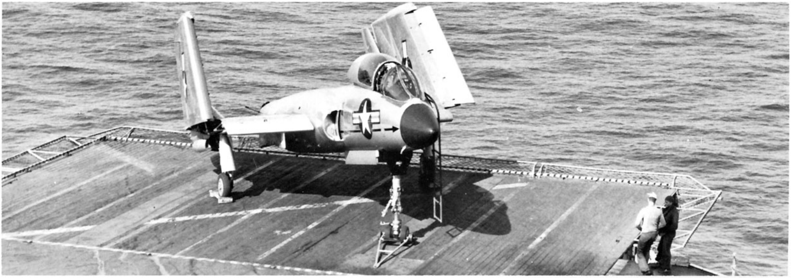
SCOPE AND METHOD OF TESTS

The airplane catapult launching characteristics were evaluated with the catapults listed below. The night catapult launching characteristics were evaluated during six launches from the H8 catapult at the Naval Air Test Center.

Type Catapult	No. of Launchings	Location
H4B	61	Naval Air Test Center
H8	26	Naval Air Test Center
H4-1	14	USS CORAL SEA
H8	21	USS LAKE CHAMPLAIN
XC-11	7	Naval Air Material Center
C-11	35	USS HANCOCK

The arrested landing characteristics of the airplane were evaluated with the following type arresting gears:

Type engine and reeving	Wire Size	No. of Landings	Location
MK 5 - 20.1 (2 engine)	1 inch	55	Naval Air Test Center
MK 5 — 24.1 (2 engine)	1 1/8 inch	5	Naval Air Test Center
MK 5 - 24:1 (2 engine)	1 3/8 inch	8	Naval Air Test Center
MK 7 - 28:1 (2 engine)	1 1/8 inch	12	Naval Air Test Center
MK 7 - 28:1 (2 engine)	1 3/8 inch	14	Naval Air Test Center



MK 5 - 12:1	1 inch	13	USS CORAL SEA
MK 5 12:1	1 inch	20	USS LAKE CHAMPLAIN
MK 7 - 18:1	1 3/8 inch	33	USS HANCOCK

CONCLUSIONS

The following conclusions are made as a result of the carrier suitability tests of YF7U-3, BuNo 128475:

a. The landing gear and slats position indicator cannot be seen when the power lever is placed in the MAXIMUM thrust position.

b. The headrest position is programmed by seat position and requires use of a lower seat position than desired by the pilot for adequate vision.

c. Cockpit access is hazardous, during high wind conditions, when the retractable steps are used instead of the portable ladder.

d. Pilots with short arms have difficulty reaching the power lever in the MAXIMUM thrust position.

e. The wing fold lock cannot be readily located by touch.

f. The catapult accessories specified in paragraph 21 are satisfactory for service use on the type catapults indicated.

g. The airplane catapult holdback socket installation, CV10-654051-1, is unsatisfactory but acceptable.

h. The airplane must be spotted on the H8 or C-11 type catapult within three inches of center when being launched with an asymmetrical load.

i. The airplane catapult launching characteristics are satisfactory when launched from the H4B, H4-1, H8 and C-11 type catapults in the configurations tested.

j. The nosewheel steering mechanism is a decided asset in taxiing the airplane, but should be disconnected when the airplane is towed or the steering bar is used.

k. The cockpit lighting is satisfactory except for lack of trim position indication, and inadequate illumination of the wheel and slats indicator and oxygen flow indicator on the left console and ammeter and voltmeter on the right console.

l. The range of cockpit lighting intensity is excellent.

m. The production arresting hook actuating cylinder assembly, CV10-601023-1 and -2, is unsatisfactory.

n. The arresting hook actuating cylinder assembly, CV10-601045-1 and -2, modified by the incorporation of a relief valve assembly and serviced to 800 psi air pressure is satisfactory.

o. The bulkhead structure at fuselage station 437 is inadequate for the loads imposed by the arresting hook actuating cylinders.

p. The bulkhead structure at fuselage station 437 is adequate for arresting hook loads when reinforced by incorporation of ECP 303.

q. The exterior lighting is unsatisfactory for night carrier landing operations.

r. The service life of the fin stub skids, CV10-160038-2, is unsatisfactory during arrested landings into MK 7 Mod 1 arresting gear with 1 3/8 inch deck pendants.

s. The main gear tire pressure of 240 psi and nose gear tire pressure of 280 psi are satisfactory for landbased operations and for shipboard arrested landings into the MK 5 arresting gear with 1 inch diameter deck pendants.

t. The main gear tire attrition rate at either 240 or 280 psi tire pressure is unacceptable aboard ships equipped with 1 3/8 inch deck pendants.

u. Some type of deck cooling or insulation in the catapult area is necessary aboard ships with a wooden flight deck when the airplane afterburners are operating.

v. The barrier detent, CV10-444067-1, is unsatisfactory for proper barrier cable actuation.

w. The fuel vent system drains fuel into the aft fuselag tank and overfills the tank.

x. The main landing gear wheel, GY 9560201, is satisfactory when used with tire pressure of 280 psi.

y. The hook bounce experienced with the arresting hoo actuating cylinder equipped with a 0.102 inch diameter orific is unacceptable.

z. The air intake nose duct wall strength is inadequate.

aa. The strength of the tail cone assembly is insufficient t withstand normal flight loads.

bb. The fuel booster pump, WEST 22E694-10, is unsuitable for service use.

cc. Catapult crewmen should be equipped with suitable e defenders while launching the F7U-3 airplane when the afte burners are operating.

dd. The airplane is satisfactory for arrested landings whe the modified arresting hook actuating cylinders CV10-601045, are installed and the structural modification t the bulkhead at fuselage station 437 is incorporated.

ee. The single engine carrier approach characteristics ar unsatisfactory.

ff. The lag in the longitudinal trim system is unsatisfactory.

The following conclusions contained in reference (b still apply:

a. Leveling procedures for weight and balance purpose are unsatisfactory.

b. The fuel gage error is unacceptable.

c. The aft towing bar provided by the contractor is imprac tical and unsatisfactory.

RECOMMENDATIONS

It is recommended that:

a. The F7U-3 airplane be accepted for service use b restricted from carrier operation until the structural modifica tion to the bulkhead at fuselage station 437 is incorporate and the arresting hook actuating cylinders, CV10-601045- and -2, are installed.

b. The fuel quantity measuring system be improved to a curately indicate the amount of fuel remaining.

c. The holdback socket installation be improved to perm one-hand operation.

d. The landing gear and slats position indicator b relocated for better visibility.

e. The headrest be made adjustable independently of sea adjustment to provide head support and permit adequate v sion during catapulting.

f. The catapult accessories specified in paragraph 21. b accepted for service use.

g. The cockpit lighting be improved for the landing gea and slats position indicator and oxygen flow indicator on th left console and the ammeter and voltmeters on the right console.

h. An auxiliary light be installed on the right wing tip t assist the LSO during night carrier landings.

i. The fin stub skid service life be improved.

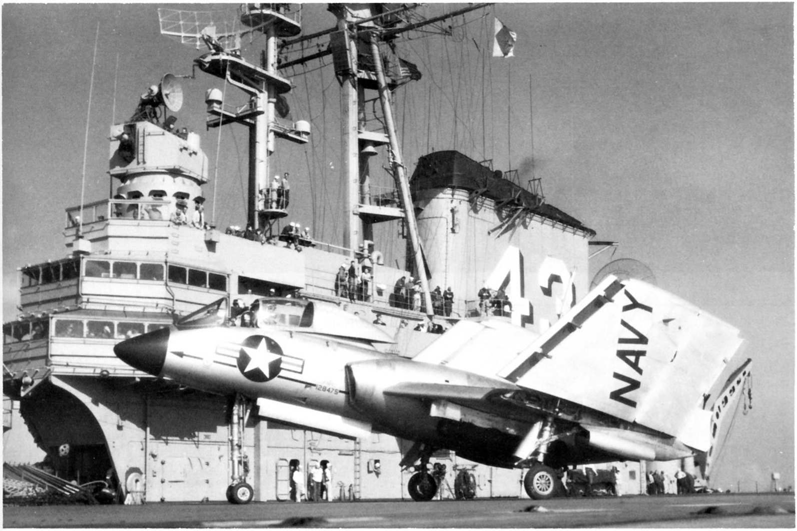
j. The barrier detent strength be improved.

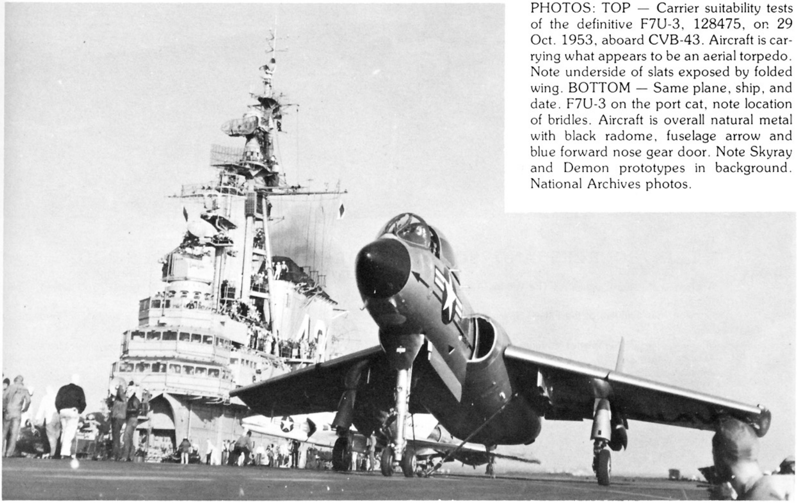
k. The fuel vent system be improved to prevent overfillin of the aft fuselage tank.

l. The trim position be made visible to the pilot during nigh operation.

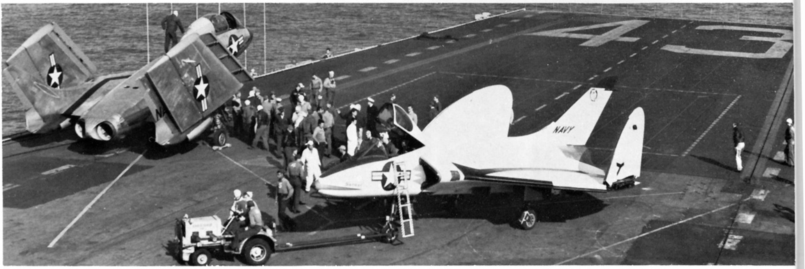
m. The fuel booster pumps, WEST 22E694-10, be removed from service.

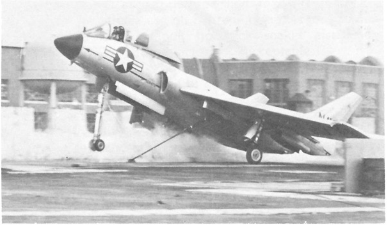
n. The catapult area on wooden deck carriers be provide with some type of deck cooling or insulation in the area of je blast impingement.



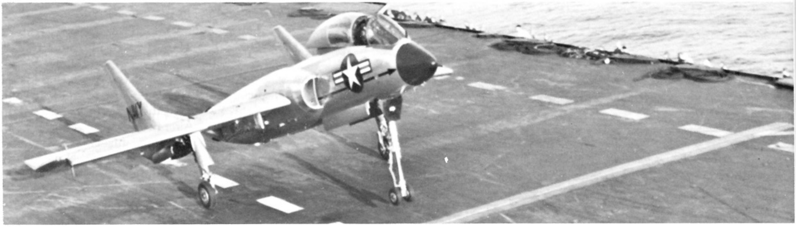


PHOTOS: TOP — Carrier suitability tests of the definitive F7U-3, 128475, on 29 Oct. 1953, aboard CVB-43. Aircraft is carrying what appears to be an aerial torpedo. Note underside of slats exposed by folded wing. BOTTOM — Same plane, ship, and date. F7U-3 on the port cat, note location of bridles. Aircraft is overall natural metal with black radome, fuselage arrow and blue forward nose gear door. Note Skyray and Demon prototypes in background. National Archives photos.





PHOTOS: TOP — F7U-3, 128475, in Oct. 1953 aboard CVB-43, with the F4D Skyray. USN photo via N.M. Williams. AT LEFT — 128475 again, in Aug. 1956, testing the XG-11 steam catapult for the first time. BOTTOM — 128475 landing on the Coral Sea on 28 Oct. 1953. Note high angle of attack and fact that main gear has just touched the deck and the nose strut is at full extension. National Archives photos. PHOTOS AT RIGHT: TOP — One of the first 16 F7U-3s, 128461, in May 1954. Compare the nose and canopy shape with that of the F7U-3 below. Photo by John Funk via Picciani Aircraft Slides. MIDDLE — YF7U-3, 129567, at NAS Patuxent River, MD. in 1957. Photo by P. Bowers via R. Besecker. BOTTOM — Factory fresh F7U-3s, 129562, 129563, and 129564. Vought photo.



MAJOR SOURCES AND SOURCES NOT LISTED IN PREVIOUS BOOKS.

BOOKS

1. Bridgeman, Leonard. Janes All The Worlds Aircraft, various years. Janes.
2. Gunston, Bill. Fighters of the Fifties. Specialty Press, 1981, Pages 234-237.
3. Moran, Gerard P. Aeroplanes Vought, 1917-1977. Historical Aviation Album, 1978
4. Jones, Lloyd S. U.S. Naval Fighters 1922 to 1980s. AERO, 1977.
5. Larkins, William T. U.S. Marine Corps Aircraft 1914-1959. Aviation History Publications. 1960.
6. Swanborough, Gordon & Bowers, Peter M. United States Navy Aircraft Since 1911. Funk & Wagnalls, 1968.

MAGAZINES

1. Air Classics. June, July and August 1976. "Cutlass", Arthur Schoeni.
2. Aeroplane Monthly. Jan. 1975. "Fighters of the Fifties Chance Vought Cutlass", Arthur Schoeni. Pages 9-17.
3. Fine Scale Modeler. Spring '82. "Building Your First Vacuum-Form Kit — A Fighter of the '50s: The Chance Vought F7U-3M Cutlass," Richard Staszak. Pages 28-32.
4. Koku-Fan. Dec. 1981. "Chance Vought F7U Cutlass". Pages 113-121.
5. Scale Aircraft Modeling. March 1982. "Chance Vought F7U-3 Cutlass," Peter Lockhart, Pages 264-268.
6. The Hook. Various issues.

DOCUMENTS

1. Flight Test Reports. F7U-1 and F7U-3
2. Squadron Histories.

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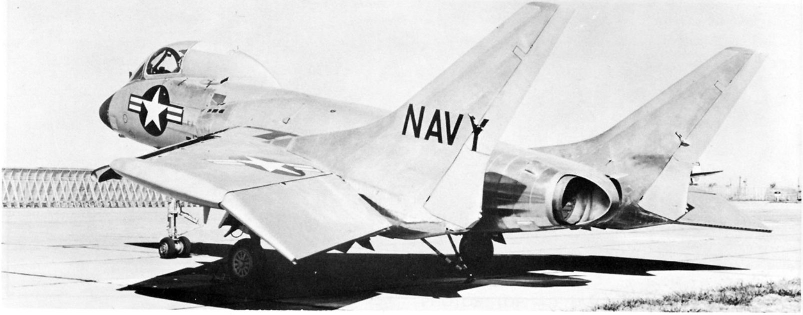
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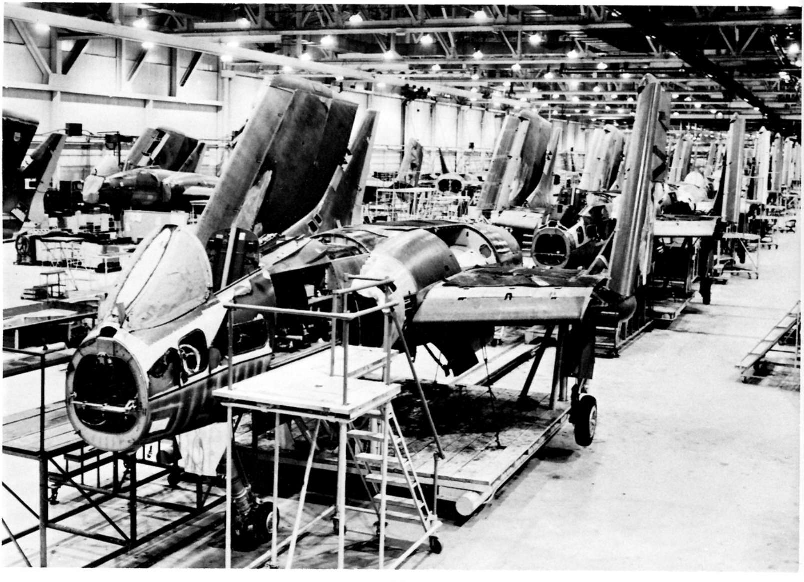
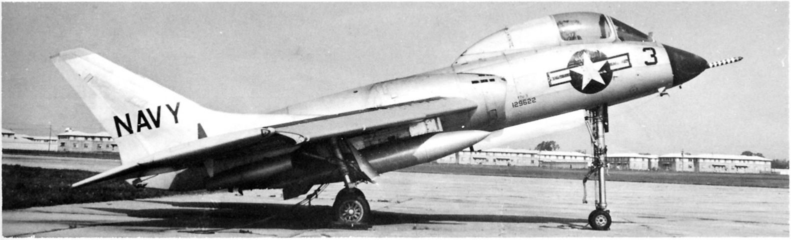
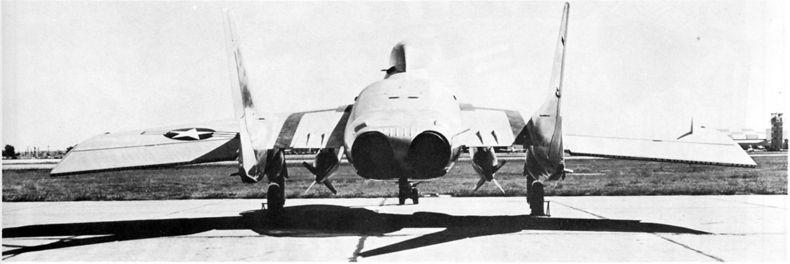
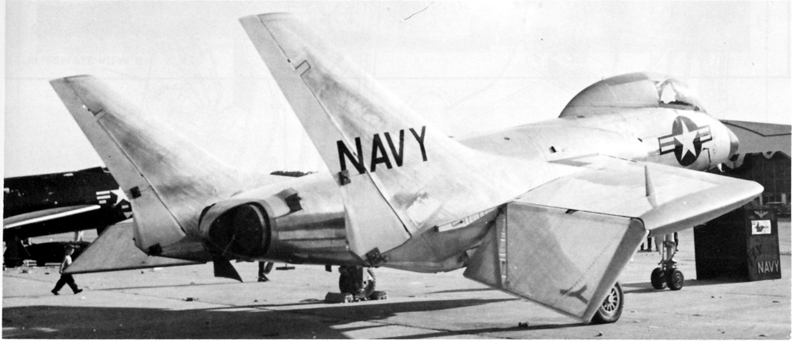
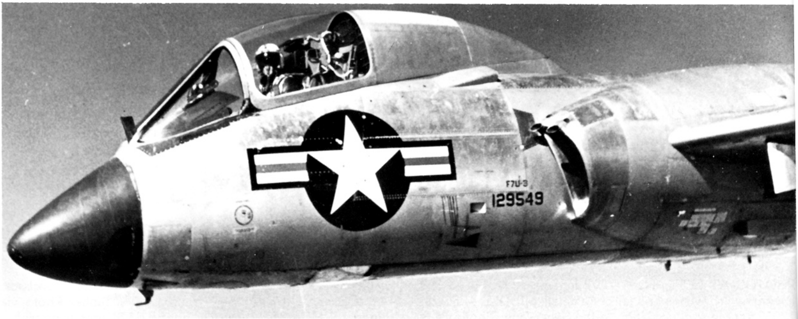




PHOTOS AT LEFT: TOP — Vought photo of F7U-3 with hook down showing good tail cone detail. MIDDLE — F7U-3, 129575, note size in relation to the Saber Dog. Photo via R. Besecker. BOTTOM — Voughts Cutlass assembly line, a diorama builders dream or nightmare depending on your point of view. Smithsonian photo. PHOTOS THIS PAGE: TOP — F7U-3, 129622, with refueling boom, boom is red and white stripes. Note nose gear is fully extended and scissors is disconnected, also note auxiliary fuel tanks. Photo via Menard. MIDDLE — Rear view of F7U-3, note wing walks. Vought photo. BOTTOM — F7U-3, 129575, note full down ailevator, note also rudder locks installed for display. Photo via Menard.



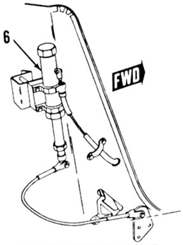



F7U-3
129549

F7U-3
129596

129654
NAVY

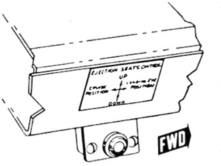
PHOTO AT LEFT: TOP — F7U-3 forward fuselage closeup. Vane in front of windscreen is the barrier deflector. Note pitot tube and ailevator programming airscoop under nose, also note stainless steel gun vents have not been retrofitted to this F7U-3. Note small anti-glare panel and light grey fiberglass panel atop aft of cockpit. Also note how Vought ejection seat fills the canopy. National Archives photo. MIDDLE — F7U-3, 129596, note open canopy position and stainless steel gun gas vents above airscoop. Photo via Menard. BELOW — F7U-3, 129654, note that unlike the F7U-Is, the F7U-3's gear doors are open when the gear is down. Photo via Menard.



ALTERNATE VIEW B

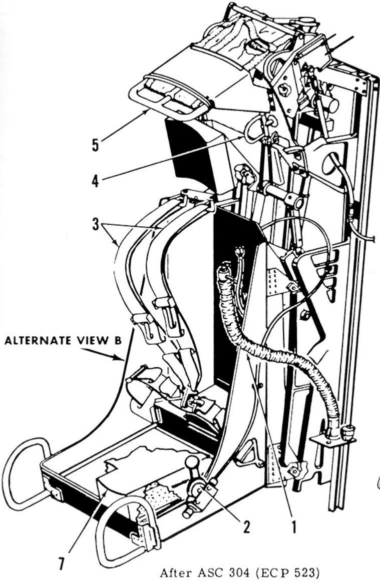
After ASC 179 (ECP 472)

1. Pilot's Oxygen Tube and Radio Connection (ref)
2. Shoulder Harness Lock Control Handle
3. Shoulder Harness Straps
4. Manual Safety Pin Release Handle
5. Face Curtain Handgrip
6. Safety Belt Actuating Unit
7. Cushion

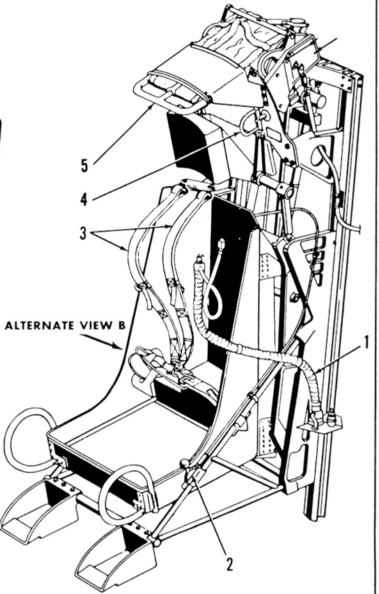

EJECTION SEATS CONTROL
UP
CRUISE POSITION
LANDING EYE POSITION
DOWN
FWD

EJECTION SEAT CONTROL SWITCH
(Left-Hand Canopy Rail)

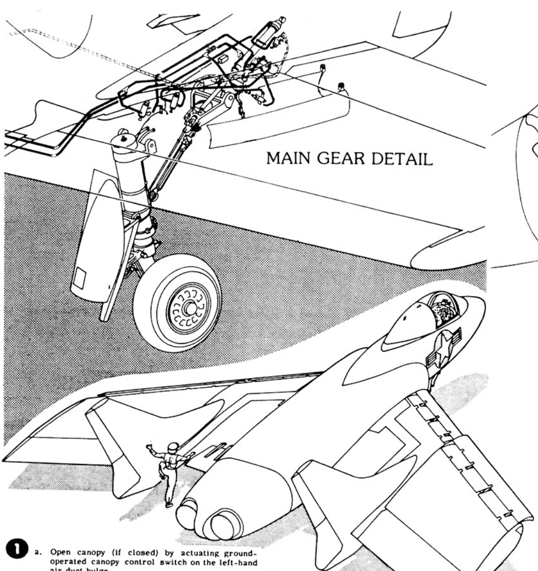
EJECTION SEAT AND CONTROLS

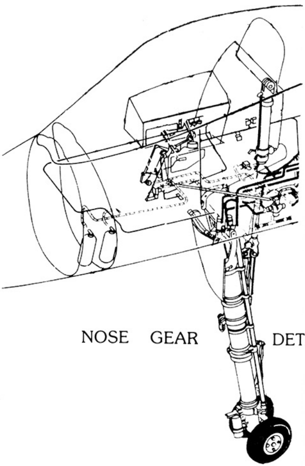

5
4
3
ALTERNATE VIEW B
7
2
1

After ASC 304 (ECP 523)


5
4
3
ALTERNATE VIEW B
1
2

Before ASC 304 (ECP 523)





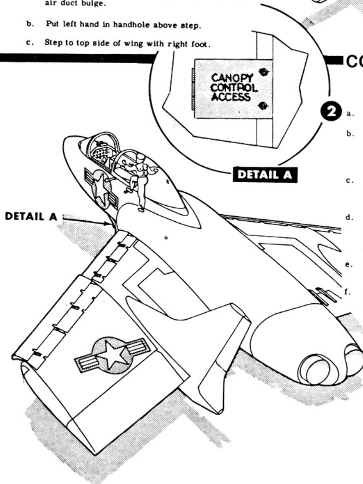
1

a. Open canopy (if closed) by actuating ground-operated canopy control switch on the left-hand air duct bulge.

b. Put left hand in handhole above step.

c. Step to top side of wing with right foot.

COCKPIT ACCESS



2

a. Walk forward on wing walkway.

b. Step to top of fuselage, grasp handhole in canopy with right hand, and place right foot on first cockpit access step (step should only be out far enough to accommodate foot).

c. Maintain grip on canopy handhole, place left foot on second step, and move step out as far as it will go.

d. Continue to maintain grip on canopy handhole and place right foot in "duckfoot" fashion between left foot and fuselage skin. Grasp front end of canopy simultaneously with left hand.

e. Swing left leg over canopy rail and step on pilot's seat.

f. Put all weight on left foot and bring right leg into cockpit.

CAUTION

Do not use this method to enter cockpit if there is any other means of access available.

ORDNANCE

GUNS

No.	Size	Location	Rds.
4	20 mm (Mk.12)	Fuselage	656

BOMBS AND ROCKETS

Type	Size	Location	No.
Bombs	1,000#	Outer Pylons, Wings	2
Bombs	2,000#	Inner Pylons, Wings	2
Rock.	2.75"	Center Line Station	44
Rock.	HPAG	Center Line Station	11
Miss.	SPARROW I	Inner & Outer Pylons	4

FIRE CONTROL

Armament Control Sys...Aero 5A

MAX. BOMB CAP.......6,000 lbs.

POWER PLANT

NO. & MODEL.....(2) J-46-WE-8
MFR..............Westinghouse
AFTERBURNER..........Integral
A.B.MFR..........Westinghouse
TYPE....12 Stage Axial Compr.
2 Stage Turbine
ENG. LENGTH..............200"
ENG. DIA..................29"
(See NOTES)

RATINGS

	Lbs. @	Rpm @	Alt.
T. O. + A. B.	5,800	10,100	S.S.L.
MIL. + A. B.	5,800	10,100	S.S.L.
MIL.	3,960	10,100	S.S.L.
NORM.	3,540	10,100	S.S.L.

W.E.C. CURVES DATED 5/11/51

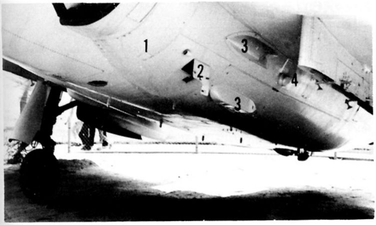
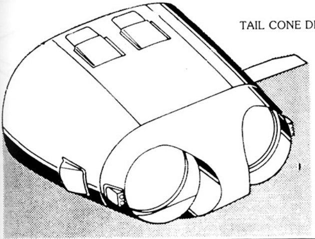


PHOTO ABOVE:
1. CANOPY CONTROL ACCESS DOOR
2. APU DOOR
3. SHELL EJECTOR SHUTS
4. CATAPULT BRIDLE HOLDBACK


TAIL CONE DETAIL

FUEL AND OIL

Gals.	No. Tanks	Location
775	3	Fuse., S.S.
91	1	Wing, S.S.
454	5	Wing, Bladder

FUEL GRADE......100/130
FUEL SPEC....MIL-F-5572

OIL

CAPACITY (Gals.)............4
GRADE.....................1010
SPEC..............MIL-0-6081

DIMENSIONS

WING AREA.........535 sq. ft.
SPAN.................39' - 9"
LENGTH...............43' - 2"
HEIGHT...............14' - 6"
TREAD................18' - 0"
M.A.C................13' - 8"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	17,110	
BASIC	17,713	
DESIGN	24,100	7.5
COMBAT	23,672	7.5
MAX.T.O..(Field)	32,500*	5.6
(Cat.)	32,500	
MAX.LAND.(Field)	25,300	
(Arrest.)	22,000	

All weights are estimated.

* Maximum anticipated loading

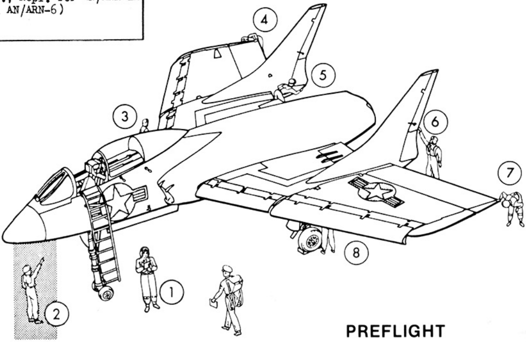
ELECTRONICS

UHF COMM....AN/ARC-27 or -27A
RADIO ALT.....AN/APN-1 or -22
IFF...................AN/APX-6
RADAR................AN/APG-30
A.D.F................AN/ARA-25
(Planned Service Installation)
MF AUTO.RADIO COMP...AN/ARN-6
(Overload item not for combat)
VISUAL HOMING.......AN/ARN-21
(P.S.I., Repl. for AN/ARR-2A and AN/ARN-6)

1	Weight and balance	...Loading same as Form F
	NavAer yellow sheet	...Airplane flight status
	External electrical power sources	...Standing by
	Wheels	...Chocks in place
	Excessive oil, hydraulic fluid or fuel leaks	...Puddles under airplane
	All visible access doors and panels	...Closed
	Utility hydraulic system starting by-pass valve	...Handle pulled out
	Left-hand engine air intake duct screen	...Removed
	Parachute	...Pararaft kit if over-water flight
	Flashlight	...If night flight
2	Nose gear shock strut	...Proper extension
	Nose gear tires	...Proper inflation No tread damage
	Nose wheel circuit breakers	...In
	Emergency air pressure gages	...Proper pressure
	FUELING SELECT SW	..."OFF"
	Aileron control stops air scoop, flight stabilization system transducer vane, angle-of-attack transducer vane, and pitot tube	...Dust covers removed. Free movement of transducer vanes
	Slats	...Extended. See Warning
3	Right-hand engine air intake duct screen	...Removed
	All visible access doors and panels	...Closed
	Right-hand main landing gear shock strut	...Proper extension Excessive leakage
	Main gear tire	...Proper inflation No tread damage
4	Ailavator	...Damage to underside
	AN/ARC-27 radio antenna(s)	...Any visible damage
5	Rudder battens	...Removed
	Fin stub	...Damage to underside
	Rudders	...Freedom of movement
	Arresting hook	...Up and latched
	All visible access doors and panels	...Closed
	Tail pipes	...Covers removed No evidence of hot-spots or other damage
6	Rudder battens	...Removed
	Fin stub	...Damage to underside
	Rudder	...Freedom of movement
	All visible access doors and panels	...Closed
7	Ailavator	...Damage to underside
	AN/ARR-2A radio antenna	...Any visible damage
8	Left-hand main landing gear shock strut	...Proper extension
	Main gear tire	...Proper inflation No tread damage

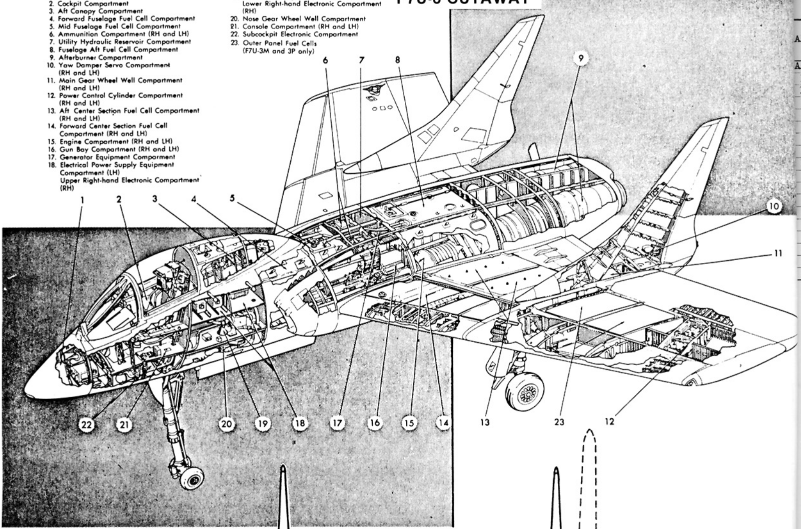
WARNING

1. Be sure slat control-landing gear control mechanical interlock is connected before each flight.
2. On F7U-3M and -3P airplanes not incorporating ASC 213 (ECP 407), remove filler caps from outer panel cells and check fuel level prior to flight.

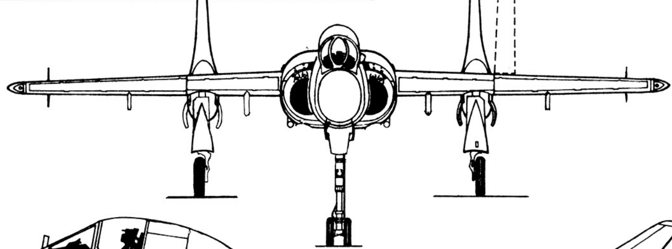


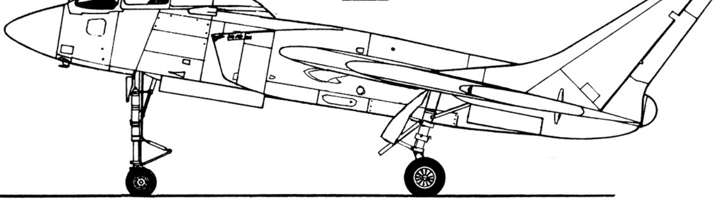
PREFLIGHT

F7U-3 CUTAWAY



1. Radome Compartment
2. Cockpit Compartment
3. Aft Canopy Compartment
4. Forward Fuselage Fuel Cell Compartment
5. Mid Fuselage Fuel Cell Compartment
6. Ammunition Compartment (RH and LH)
7. Utility Hydraulic Reservoir Compartment
8. Fuselage Aft Fuel Cell Compartment
9. Afterburner Compartment
10. Yaw Damper Servo Compartment (RH and LH)
11. Main Gear Wheel Well Compartment (RH and LH)
12. Power Control Cylinder Compartment (RH and LH)
13. Aft Center Section Fuel Cell Compartment (RH and LH)
14. Forward Center Section Fuel Cell Compartment (RH and LH)
15. Engine Compartment (RH and LH)
16. Gun Bay Compartment (RH and LH)
17. Generator Equipment Comparment
18. Electrical Power Supply Equipment Compartment (LH)
    Upper Right-hand Electronic Compartment (RH)
19. Air-conditioning Compartment (LH)
    Lower Right-hand Electronic Compartment (RH)
20. Nose Gear Wheel Well Compartment
21. Console Compartment (RH and LH)
22. Subcockpit Electronic Compartment
23. Outer Panel Fuel Cells (F7U-3M and 3P only)

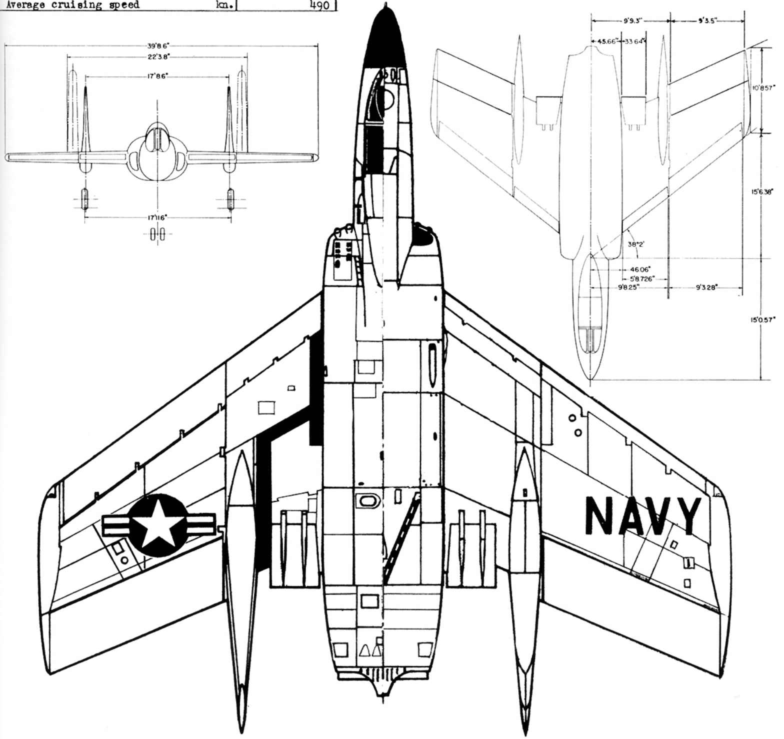


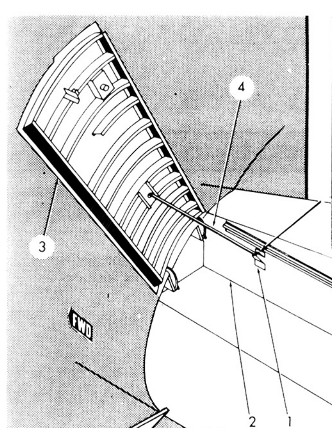


PERFORMANCE SUMMARY

AKE-OFF LOADING CONDITION		(1) FIGHTER Full Internal
AKE-OFF WEIGHT	lb.	26,840
Fuel	lb.	7,920
Payload (Ammunition)	lb.	405
Wing loading	lb./sq.ft.	50.2
Stall speed - power-off	kn.	112
Take-off run at S.L. - calm (2)/(3)	ft.	2,750/1,595
Take-off run at S.L.,25kn.wind(2)/(3)	ft.	1,760/1,005
Take-off to clear 50 ft. - calm	ft.	—
Max. speed/altitude (1)	kn./ft.	532/15,000
Rate of climb at S.L. (2)	fpm	4,590
Time: S.L. to 20,000 ft. (2)	min.	5.6
Time: S.L. to 30,000 ft. (2)	min.	10.2
Service ceiling (100 fpm) (2)	ft.	40,600
Combat range	n.mi.	800
Average cruising speed	kn.	490
Cruising altitude(s)	ft.	38,700/42,700
Combat radius	n.mi.	260
Average cruising speed	kn.	490

COMBAT LOADING CONDITION		(2) COMBAT	(3) COMBAT
COMBAT WEIGHT	lb.	23,672	23,672
Engine power		Mil. + A. B.	Military
Fuel	lb.	4,752	4,752
Combat speed/combat altitude	kn./ft.	540/35,000	518/35,000
Rate of climb/combat altitude	fpm/ft.	4,980/35,000	1,460/35,000
Combat ceiling (500 fpm)	ft.	46,800	40,800
Rate of climb at S.L.	fpm	14,240	5,330
Max. speed at S.L.	kn.	606	554
Max. speed/altitude	kn./ft.	606/S.L.	556/5,000
LANDING WEIGHT	lb.	20,436	
Fuel	lb.	1,516	
Stall speed - power-off	kn.	96.8	
Stall speed - with approach power	kn.	93.2	





1. Gun Bay Door Brace Bracket
2. Keel
3. Gun Bay Door
4. Gun Bay Door Brace Strut
5. Brace Strut Quick-Release Pin
6. Brace Strut Pin Release Sleeve

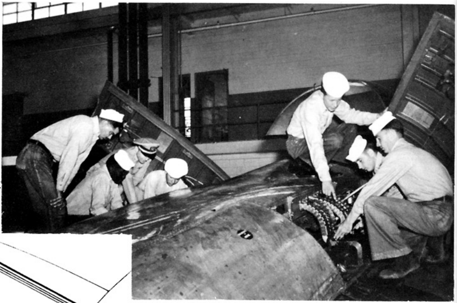
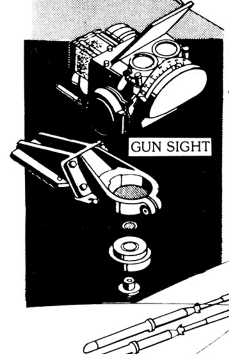
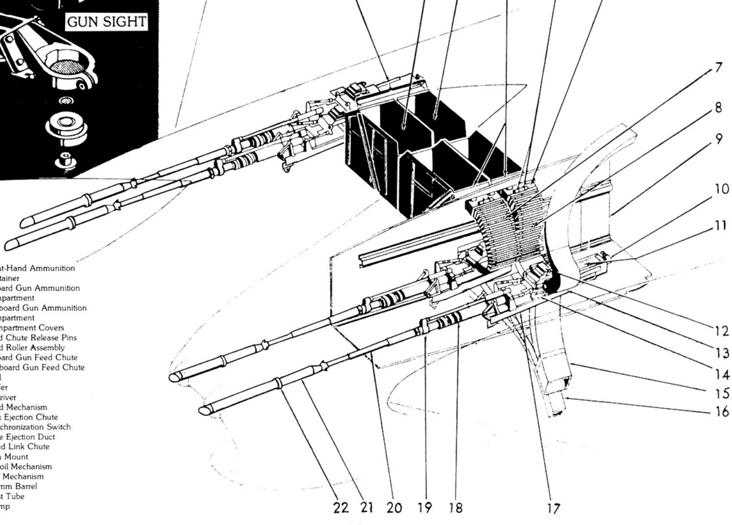


PHOTO ABOVE — VA-83 personnel inspecting cannon installation of a F7U-3. Note gun door detail as shown above and on drawing at left. USN photo via Bill Lebert.


GUN SIGHT

20 MM GUNS



1. Right-Hand Ammunition Container
2. Inboard Gun Ammunition Compartment
3. Outboard Gun Ammunition Compartment
4. Compartment Covers
5. Feed Chute Release Pins
6. Feed Roller Assembly
7. Inboard Gun Feed Chute
8. Outboard Gun Feed Chute
9. Keel
10. Buffer
11. Receiver
12. Feed Mechanism
13. Link Ejection Chute
14. Synchronization Switch
15. Case Ejection Duct
16. Fixed Link Chute
17. Gun Mount
18. Recoil Mechanism
19. Gas Mechanism
20. 20-mm Barrel
21. Blast Tube
22. Clamp

Captain Robert Dresson, USN (ret.), on the testing of the Cutlass at NATC Patuxent river, 1954-1955.

Dreeson went to Pax River in August 1953, graduated from the Test Pilot School, & was assigned to the Systems Office of Armament Test. He first flew the F7U-3 in December 1954. Coming from the fleet — he had flown Banshees with VF-11 in Korea — Dreeson had heard that the Cutlass was going to be a terrific fighter, with great engines. The initial projections for the Westinghouse J-46 called for 7,000 lbs. dry thrust and 10,000 with afterburner. This would have given about 20,000 lbs. of thrust for an aircraft that weighed only 18-19,000 lbs. empty. By the time the F7U-3 arrived at Pax, the engines had been downrated to just about 6,000 lbs. dry and 9.000 on A/B. By the time he stopped flying the Cutlass in November 1955, the J-46 was rated at 4800 dry/6500 A/B. The total thrust for both engines was just barely above what each engine had been expected to put out. Even down-rated this much, the engine had a relatively short life and a high maintenance to flight time ratio. Almost all of the Navy's second-generation jet aircraft had been designed around Westinghouse engines, successors to the very reliable Westinghouse J-34, which had powered the F7U-1. The Cutlass and Seadart had the J-46 and the Demon, Skyray, and Skywarrior had the J-40. After major redesign the Skyray ended up with the J-57 and the Demon with the J-71. With pod-mounted engines it was fairly simple to install the J-57 on the A3D. But for the Cutlass, there was simply no other engine that would fit in terms of geometry, thrust, or size; the Cutlass was stuck with the dog J-46's.

A common problem among tailless aircraft was the center of gravity, and the Cutlass was no exception. All ordinance had to be mounted on and dropped from the nominal c/g. There was a very complex automatic fuel system which fed from the seven tanks (nine in the F7U-3P) in such a way as to maintain the c/g. The Cutlass was the first Navy aircraft to use a high-pressure (3,000 lb.) hydraulic system; the F9F series had about 1.000-1500 lbs. Each engine had two pumps, two nominally dedicated to the flight control system and two for the auxiliary equipment. But one pump could run the flight control system, and any of the four could be switched to that function. It also had a new and complex trim system. Instead of the spring-loaded button used up to that time, the Cutlass used dialed rheostat systems — one for elevator and one for aileron. "This really confused any conventional jet pilot in his first flight, because we'd been used to just hitting a spring-loaded button — you put in a little trim by just tapping a button. In the F7U the rheostat system worked fairly slowly, so you'd dial but you wouldn't feel anything, so you'd dial some more and you still wouldn't feel anything happening. By then your eyes are wide and all of a sudden too much trim would hit the aircraft. It wasn't difficult once you got used to it, but it was unusual. The auto-stability system worked pretty well, and when the auto-stab, the hydraulic system, and the automatic fuel/c-g system all worked, it was a dream to fly — very comfortable, with superb visibility."

The problem Dreeson spent the most time on was a baffling tendency for the engines to fail when the guns were fired under a whole series of flight condition parameters. There would be either an immediate flameout or a rapid increase in temperature followed by a burning up of the turbine blades. Gun gas was the initial suspect, and some airflow deflectors were added to the intakes, but it eliminated the problem only under certain parameters. Once the problem was recognized the test pilots were able to induce the condition and, by reacting quickly, prevent engine loss or flameout. But it meant lots of short flights — take off, go out over the water, fire the guns, and come home. Chance Vought's own test pilots were grappling with the problem at the same time over the Gulf of Mexico. Several F7U-3's were instrumented "to the teeth" in the search for the culprit. It turned out to have been a pressure resonance phenomena. The electric-primed guns weren't supposed to fire in sequence, but after a few rounds they'd be doing so, creating a pressure wave at the intake. The pressure wave caused an "organ-pipe" type resonance in the aft part of the compressor, which created a stall condition there. The air mass, being much more turbulent than it was supposed to be, caused overtemperature at the turbine blades. The turbine blades and the fuel flows were governed by the RPM indicators located at the initial compressor stage. As the stall moved forward, the engine was "tricked" into getting excess fuel and inadequate air, creating even higher over-temperatures — goodbye, blades. The solution was to install circuits which didn't allow the right and left pairs of guns to fire in sequence. It caused a slight reduction in the rate of fire, but solved the engine problem.

Another armament problem was the belly rocket pack. It carried 32 2.75″ rockets in two rows. But instead of one row above the other (as in the F-86D), one row was *behind* the other. The second row of 16 rockets went through the empty holes left by the first row. Sometimes one of the front row rockets wouldn't fire or wouldn't clear the tube. Usually the second one would clear it out, but if it didn't the result was often a fire in the rocket pack. This glitch caused Dreeson to bring a burning Cutlass in for an emergency landing at Pax once.

Dreeson was project officer for the F7U-3P. The primary contract with Chance Vought included 12 photo birds. Although the F2H2-P and F9F-8P were perfectly adequate photo platforms, neither had the performance the Cutlass was expected to have at the time the contract was concluded. Of course by the time Pax received its photo birds there was widespread disillusionment with the basic aircraft. One aspect of the Cutlass that made it unsuitable as a photo aircraft was the high nose. The end of the nose sat so high off the ground that access to the cameras was very difficult, and removing one required a gantry and a winch. An ambitious test program was drawnup for the dash-P, but the Navy cancelled the program before it really got started.

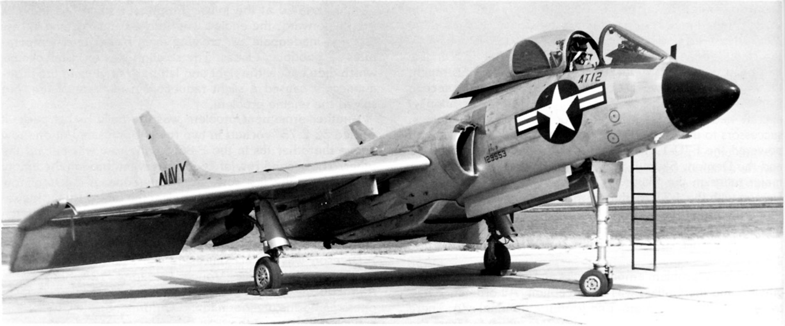
The photo birds were kept on at Pax and used in various armament test programs, most notably for high-speed mine-laying tests in anticipation of the P6M Seamaster. In terms of dropping ordnance, Dreeson said that the auto-stab system and the large dive brakes combined to make the Cutlass "the best jet dive bomber" he'd flow til then or since. "You could roll into a dive, put the throttles at whatever setting you wanted to use, and then modulate the differential speed brakes to maintain an exact speed. There was no trim change with the speed brakes out, so you could line up on a target, maneuver into a dive, and it was as steady as a rock."

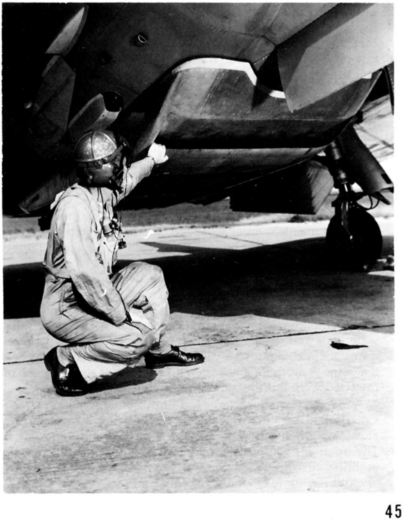
A mishap during the mine testing demonstrated the ruggedness of the Cutlass. The mines were dropped attached to parachutes which had to slow them down to the point where they'd enter the water without being wrecked. The parachutes were large and strong, and when one opened prematurely on a Cougar in earlier tests a wing was torn off the aircraft. When the same thing happened on a Cutlass later, some pieces of the wing went but the aircraft returned safely.

Another serious problem was unreliable afterburners. The Cutlass had the first movable eyelids on the burners. They always worked, but sometimes one or both burners didn't. The open lids without afterburners resulted in a marked drop in thrust. the -P and -M versions were heavy enough to need afterburners for fully loaded takeoffs and carrier waveoffs. According to Dreeson, a Cutlass returning to the boat with four Sparrows that got a late waveoff needed at least one working afterburner to avoid a ramp strike. He said the closest he came to buying it in land-based flight operations was when he lost both burners taking off from one of Pax's shorter runways with a fully loaded F7U-3M. He made it, but maintains that the birds in the wildlife sanctuary at the end of the runway probably still tell the story.

Gases from Sparrow launches often caused flameouts when they were ingested. Once Dresson was flying photo coverage in a photo Cutlass for a dual Sparrow launch by an F7U-3M. Not only did the rocket gases cause the launch bird to both lose engines, but Dreeson was close enough to have one of his flame out! All three were safely relit.

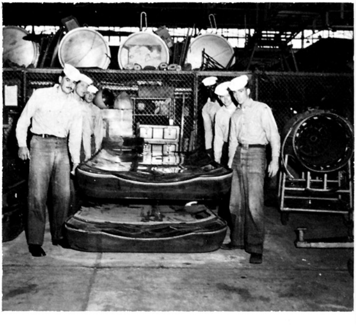
Dreeson feels the Navy had no choice but to make the service career of the Cutlass as brief as it was. But he still believes that had the engines performed as advertised, the Cutlass would have been one of the most effective fighters of the mid nineteen-fifties. "It was a real shame," he lamented.



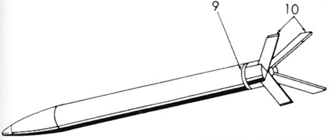


PHOTOS: TOP — F7U-3, 129553, on 28 May 1954, at NATC, note AT-12 under cockpit, which stands for armament test. Note position of rocket pack being tested. National Archives photo. AT LEFT — Pilot inspecting early style rocket pack on 129553. Pilot has his hand on the firing door which is open. USN photo via W. T. Larkins.

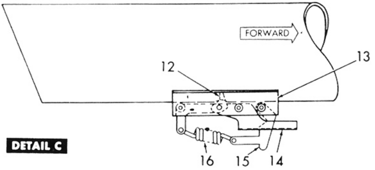
BOTTOM — Six VA-83 men lifting a F7U-3 rocket pack, note the rocket door is open on the rocket pack at left. USN photo via Bill Lebert.

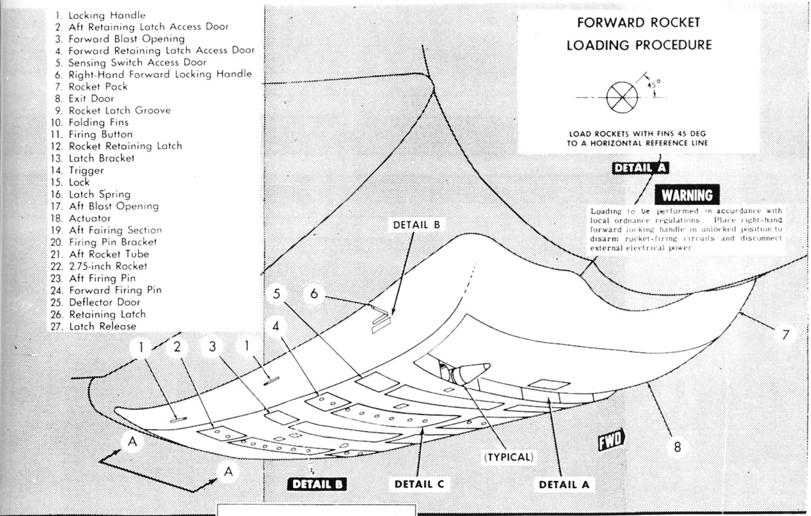


ROCKET PACK



2.75-INCH FOLDING FIN
AIR-TO-AIR ROCKET


FORWARD
12
13
16
15
14
DETAIL C


DETAIL B
5
6
4
1
2
3
1
7
8
A
A
FWD
(TYPICAL)
DETAIL B
DETAIL C
DETAIL A
45°
DETAIL A

1. Locking Handle
2. Aft Retaining Latch Access Door
3. Forward Blast Opening
4. Forward Retaining Latch Access Door
5. Sensing Switch Access Door
6. Right-Hand Forward Locking Handle
7. Rocket Pack
8. Exit Door
9. Rocket Latch Groove
10. Folding Fins
11. Firing Button
12. Rocket Retaining Latch
13. Latch Bracket
14. Trigger
15. Lock
16. Latch Spring
17. Aft Blast Opening
18. Actuator
19. Aft Fairing Section
20. Firing Pin Bracket
21. Aft Rocket Tube
22. 2.75-inch Rocket
23. Aft Firing Pin
24. Forward Firing Pin
25. Deflector Door
26. Retaining Latch
27. Latch Release

FORWARD ROCKET
LOADING PROCEDURE

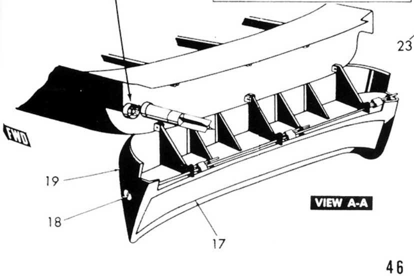
LOAD ROCKETS WITH FINS 45 DEG
TO A HORIZONTAL REFERENCE LINE

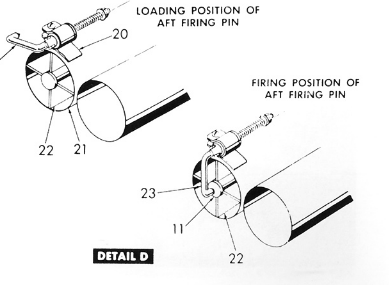
WARNING

Loading to be performed in accordance with local ordnance regulations. Place right-hand forward locking handle in unlocked position to disarm rocket-firing circuits and disconnect external electrical power.

UNLOCK HANDLE

INTERVALOMETER IS
RESET WHEN LIGHT IS ON


DETAIL D
(TYPICAL)
FWD
19
18
17
VIEW A-A

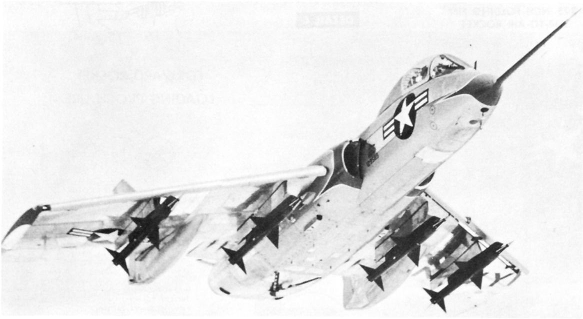

LOADING POSITION OF
AFT FIRING PIN
20
23
22
21
FIRING POSITION OF
AFT FIRING PIN
23
11
22
DETAIL D

F7U-3M

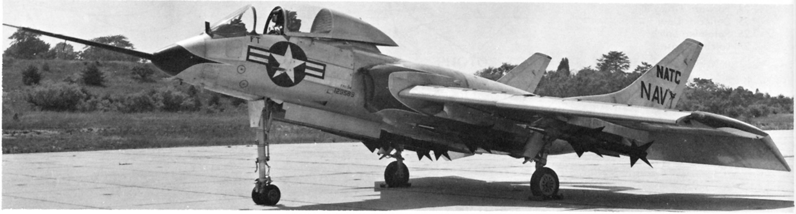
The F7U-3M was essentially the same aircraft as the straight dash three, with the addition of two 124 gal. wing tanks and four wing pylons. In its role as a missile fighter the Cutlass carried the Mk.11 gunsight, Mk.16, Mod.4 fire control and an AN/APQ-51 radar.

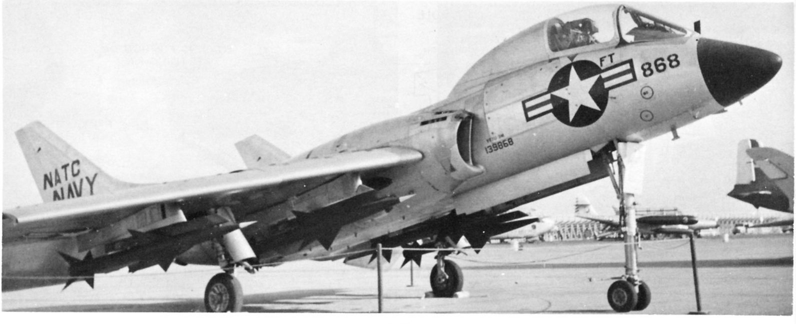
F7U-3s #'s 129589 and 129590 were converted into prototypes for the F7U-3M's. The first flight of a production F7U-3M, of which 98 were ordered and built, took place on 12 July 1954. The last Cutlass built a F7U-3M was delivered on 12 August 1955.

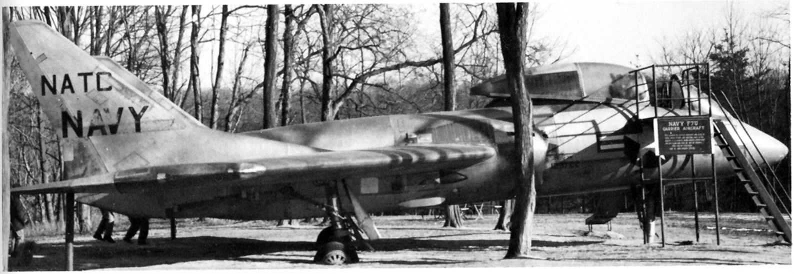
As the F7U-3Ms became available, they quickly replaced the F7U-3s and the VF Cutlass squadrons changed their designation to VA squadrons. This was because the 3M could carry up to 3,500 lbs. of external stores.

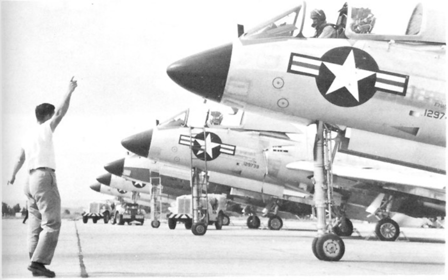


PHOTOS: TOP — F7U-3M prototype, a converted F7U-3, 129589, in flight. Aircraft is overall natural metal with red nose and intake flashes outlined in white. Note the four Sparrow I missiles. Vought photo. MIDDLE — Side view of same aircraft, note FT under canopy, NATC on fin and red wingtip and fintip. National Archives photo. BOTTOM — YF7U-3M, 139868, assigned to NATC, note recontoured intake used on F7U-3Ms and retrofitted to F7U-3s still in service. Photo via R. Besecker.

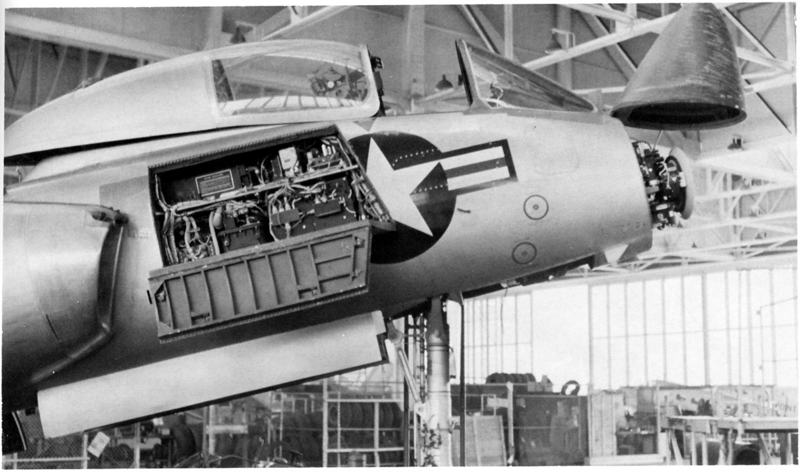


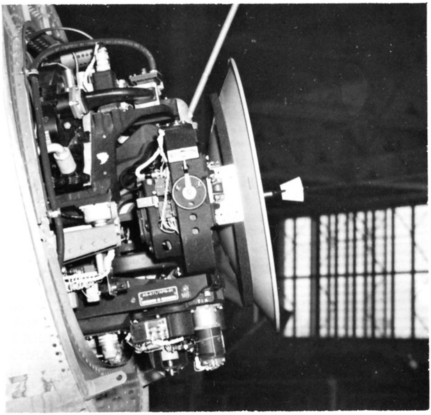


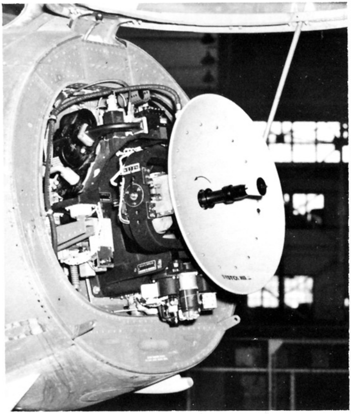

NATC
NAVY
NAVY F7U
CARRIER AIRCRAFT

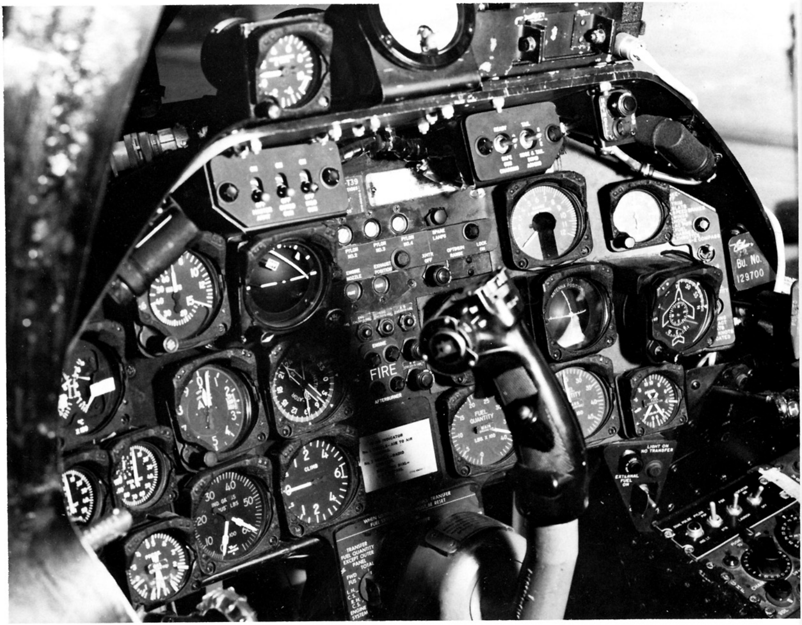


PHOTOS: TOP — YF7U-3M, 129722, from NATC retired to a park in Wheaton, Maryland. Photo by David Ostrowsky via Menard. MIDDLE — Line of F7U-3Ms at Voughts plant. AAHS photo. BOTTOM — Early version of F7U-3M at NAS Point Mugu, with radome open and fuselage access panel open National Archives photo taken on 20 July 1955.








FIRE
AFTERBURNER
FUEL QUANTITY
CLIMB
PYLON NO.2
PYLON NO.3
PYLON NO.4
SPARE LAMPS
ENGINE NOZZLE
EXHAUST POSITION
OPTIMUM RANGE
LOCK ON
XMTR OFF
Bu. No. 129700
LIGHT ON NO TRANSFER
EXTERNAL FUEL ON
TRANSFER FUEL QUANTITY EXCEPT OUTER PANEL TOTAL
ANTENNA POSITION

F7U-3P

At the same time that the F7U-3M was ordered, Feb. 1951, the Navy placed an order for twelve photo Cutlasses. First flight for the F7U-3P was on 1 July 1954.

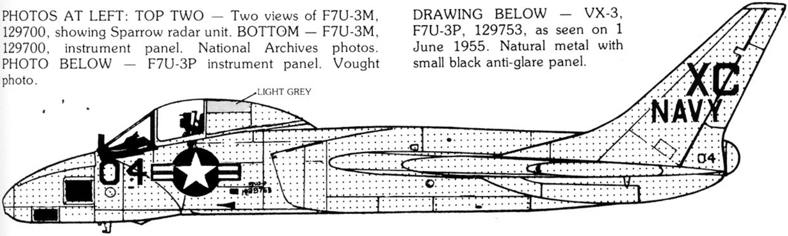
The F7U-3P was developed by lengthening the Cutlass nose 25 inches to accommodate the photo equipment. Additionally the guns were deleted and provisions for 40 flash cartridges were installed atop the fuselage behind the cockpit.

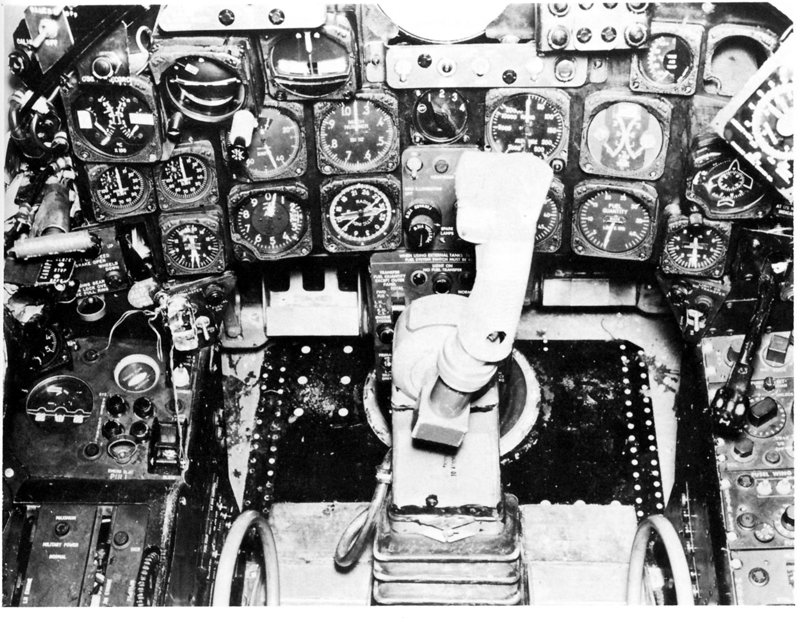
The twelve photo Cutlasses built were used for evaluational purposes only. Testing was done by various units including VX-3.

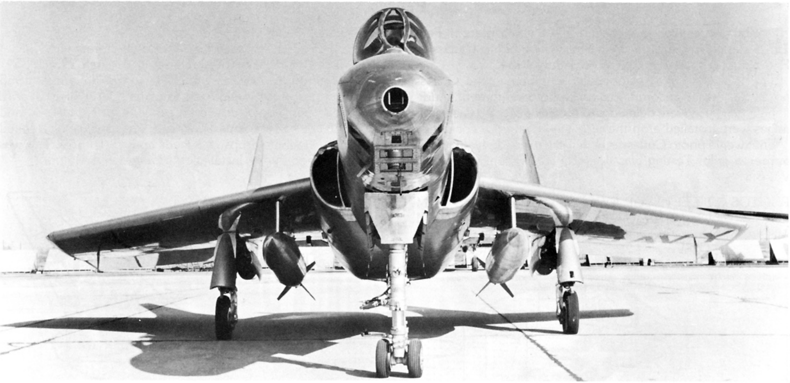
PHOTOS AT LEFT: TOP TWO — Two views of F7U-3M, 129700, showing Sparrow radar unit. BOTTOM — F7U-3M, 129700, instrument panel. National Archives photos. PHOTO BELOW — F7U-3P instrument panel. Vought photo.

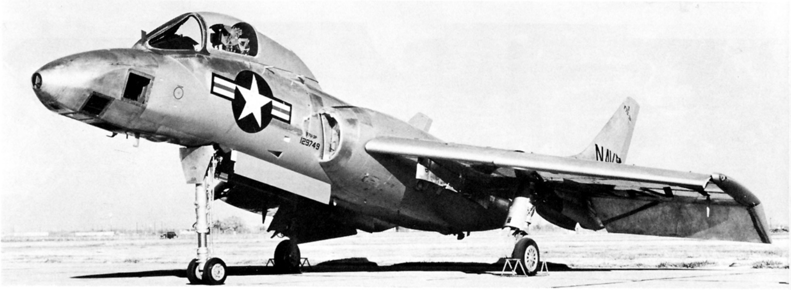
The F7U-3P would turn out to be the last Cutlass in service. BuNo. 129754 assigned to the Naval Parachute Unit at NAAS El Centro, Calif. was retired on 2 March 1959. "754" was acquired by the Parachute Unit on 8 November 1955 from storage at Litchfield Park, Arizona. During its stay at El Centro "754" would recieve six service tour extensions, and fly a total of 162 missions. The plane was used for high speed dummy parachute drops, at speeds up to 570 knots. This was accomplished by the installation of a special belly pod.

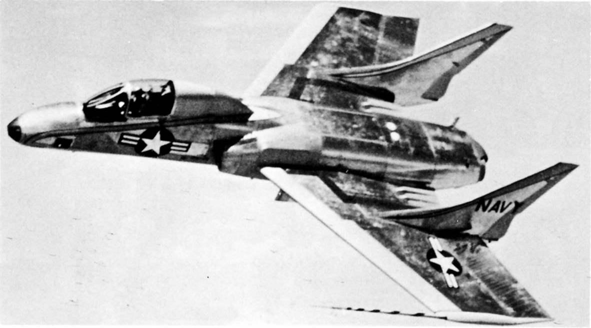
DRAWING BELOW — VX-3, F7U-3P, 129753, as seen on 1 June 1955. Natural metal with small black anti-glare panel.



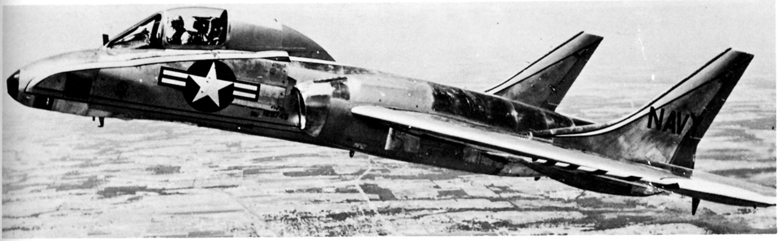


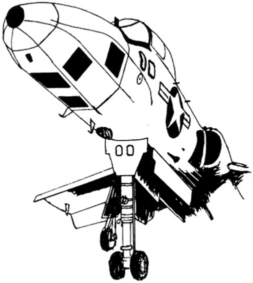


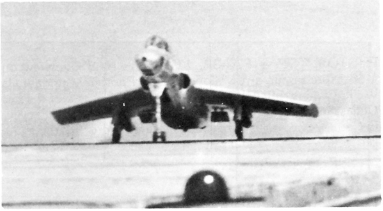




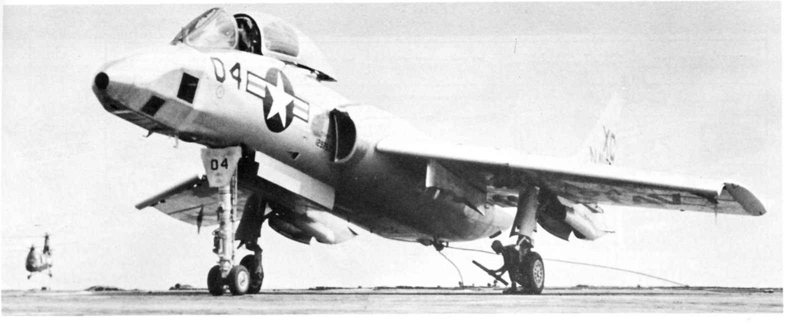
PHOTOS: TOP — Head-on view of F7U-3P, 129749, note drop tanks and nose contours. MIDDLE — Same aircraft, note F7U-3P stenciled on fin tip. BOTTOM — F7U-3P, 129745, in flight with yellow trim outlined in blue, also note red stripes on test boom. Vought photos.

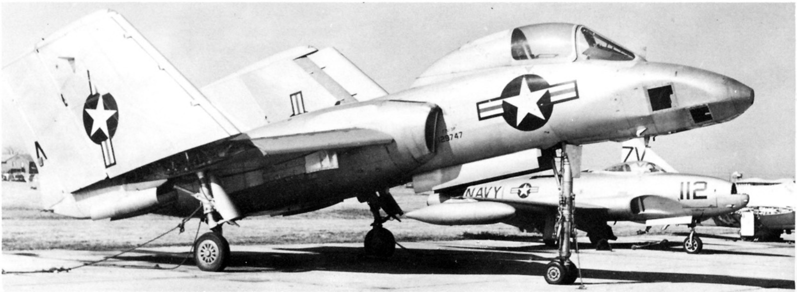




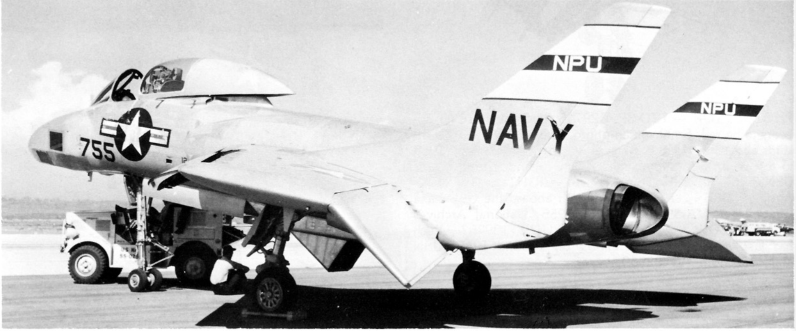


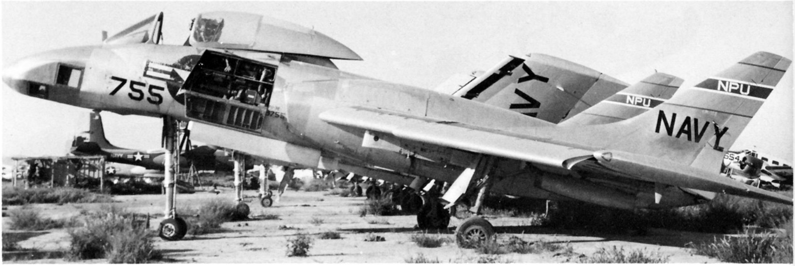
PHOTOS: TOP — F7U-3P, 129745, in flight, nose tip appears to be red. Smithsonian photo. RIGHT TOP — F7U-3P lands aboard the USS Bennington CVA-20 on 22 Aug. 1955 to test new deck landing mirror sight. Plane is from VX-3. USN photo via Nicolaou Archives. RIGHT BOTTOM — Another VX-3 F7U-3P about to land aboard the USS Lake Champlain CVA-39 on 1 June 1955. National Archives photo. BELOW — Another VX-3 F7U-3P, 129753, which has just landed aboard CVA-39 on 1 June 1955. USN Tailhook photo #VF-02860.

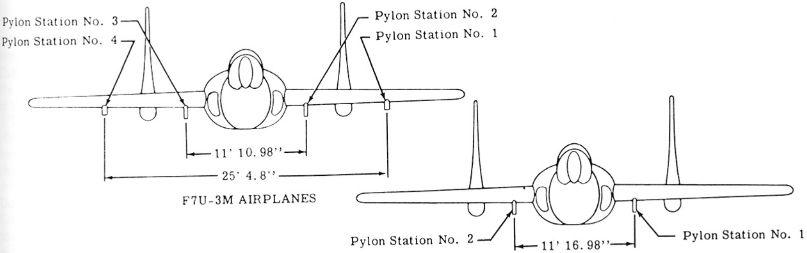




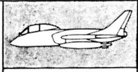
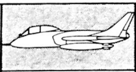
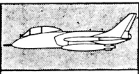
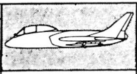
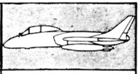
PHOTOS: TOP — F7U-3P, 129747, at NAS Glenview on 4-58. Note rescue arrow atop canopy. Photo by Lundahi via W. T. Larkins. MIDDLE — F7U-3P, 129755, one of the last Cutlass in active service attached to Naval Parachute Facility, El Centro, and used for high speed dummy drops, note chute like compartment under belly used for the drops. Fin colors are black line, yellow stripe, white line blue stripe with white lettering. Photo taken on 10 Aug. 1957 by D. Olson via W. Swisher. BELOW — Same aircraft after retirement at Litchfield park on 21 Mar. 1960. Note fuselage access door is open. Aircraft is overall natural metal. Photo by W. Swisher.





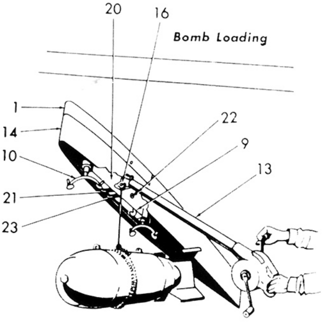


Main Differences

					
	F7U-3 Airplanes BuNo. 128467 through 128478	***F7U-3 Airplanes BuNo. 129545 through 129675***	***F7U-3 Airplanes BuNo. 129676 and Subsequent***	***F7U-3M Airplanes***	***F7U-3P Airplanes***
EXTERNAL RECOGNITION FEATURES					Nose section redesigned to accommodate photographic equipment.
	Rocket Pack or Fuselage Fuel Pod when installed.				Fuselage Fuel Pod when installed.
	External Fuel Tanks when installed.	External Fuel Tanks and Inflight Refueling Probe when installed.		External Fuel Tanks when installed.	
				Outer panel pylons to accommodate missiles.	
TACTICAL OPERATION	Carrier-based fighter.				Carrier-based photo-reconnaissance.
POWERPLANT	J46-WE-8B with integral afterburner.			J46-WE-8 with integral after-burner.	J46-WE-8B with integral after-burner.
FUEL SYSTEM	External fuel.	External fuel and inflight refueling.		External and outer panel fuel.	
COCKPIT	AN/ARA-25 Direction Finder Group.				AN/ARR-2A Aircraft Radio Receiver.
	AN/ARR-2A Aircraft Radio Receiver.				
		AN/APA-89 Equipment after ASC 55 (ECP 51).			
	Electrical erection of gyro horizon. Gyro horizon warning light on instrument board.	Manual erection of gyro horizon. Gyro horizon OFF flag on indicator.			
	A-C power control - Main and standby inverters.	A-C power control - main and standby inverters	A-C power control - Main and standby inverters.	A-C power control - Air turbine generator with under-frequency control and two inverters.	A-C power control - Air turbine generator and instrument inverter.
	Aero 10D Armament Control System		Aero 10D Armament Control System.	Aero 10E Armament Control System.	A 20 VF Viewfinder System.
		Aero 18A armament control system after ASC 7 (ECP 223) and temporary kit R82-2-F7U-C7. Aero 14 series stores after ASC 21 (ECP 105), ASC 259 (ECP 433), and conversion kit R82-2-F7U-C21.			
	Emergency engine exhaust nozzle control.				Emergency engine exhaust nozzle control.
	Engine automatic trim controls.			EMERG MILITARY THRUST switch after ASC 301 (ECP 516)	
	Engine AEC power test panel on RH console (one switch and one test light).	Engine AEC power test panel on RH console (two switches and one test light). ◊			Engine AEC power test panel on LH console (two switches and one test light)
	External fuel controls.	External and inflight refueling controls.		External and outer panel fuel controls.	
		Console-controlled preselection of UHF radio frequencies.			

THE A2U

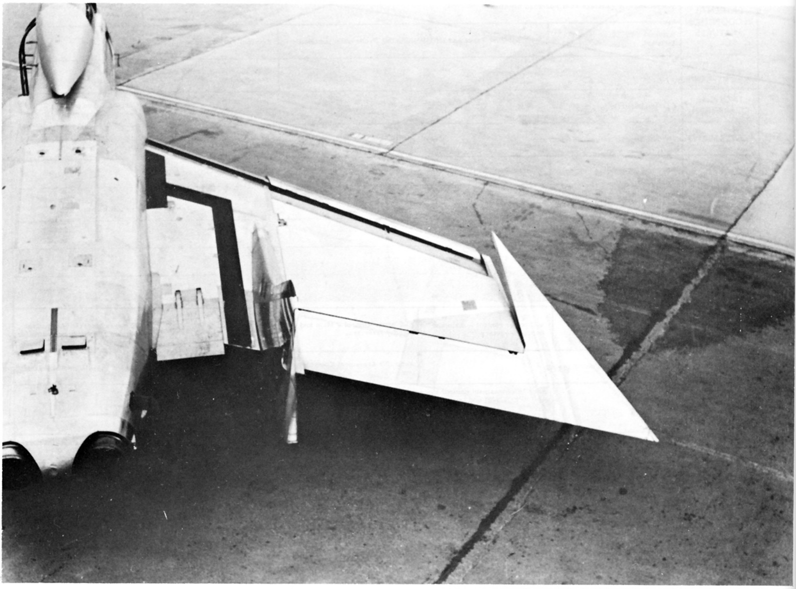
Vought also proposed to the Navy in 1951 the A2U-1 (U-389). This design by Vought was an attempt to develope the Cutlass into an effective attack aircraft. The A2U-1 was to have up to as many as ten wing pylons and carry as much as 7,000 lbs. of external ordinance. The four 20 mm cannons would be reduced to two, and a new electronics and gun control system installed. Power would be supplied by J-46-WE-18 engines; weight was to be 29,375 lbs. gross takeoff; speed 595 knots at sea level and a combat range of 358 nautical miles. Further design proposals of the A2U-2 and A2U-3 were also made, but were never acted upon as the contract for 50 A2U-1s was canceled on 18 November 1954.



USING SINGLE HOIST
ON MK 51 RACK

1. Pylon
9. Bomb Suspension Hook
10. Sway Brace
13. MK 8 Mod 0 Bomb Hoist
14. Fairing
16. Hoisting Bracket
20. MK 51 Rack
21. Nose Arming Wire Retainer
22. Hook Latching Pin
23. Tail Arming Wire Retainer

PHOTO BELOW — F7U-3 fitted with deta-tip-ailavator as was to be used on the A2Us. Photo via Smithsonian.



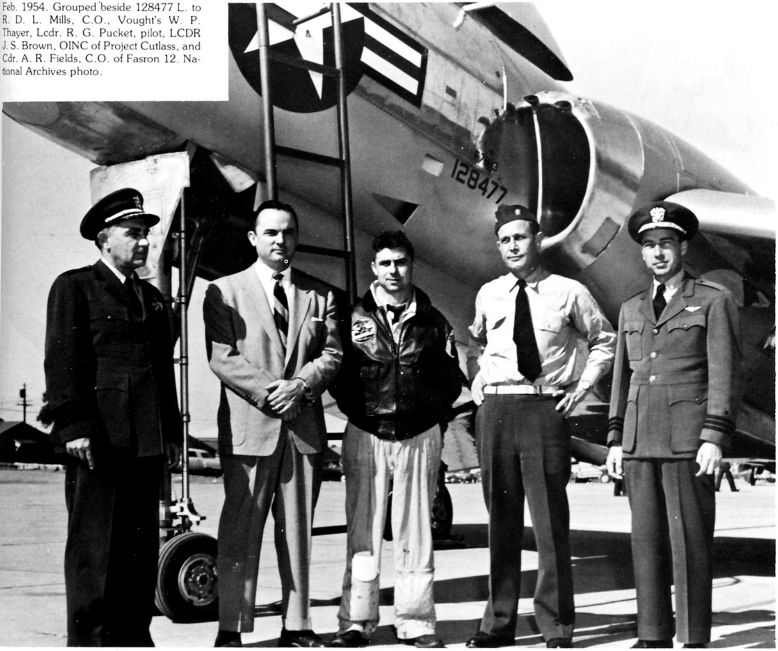
PROJECT CUTLASS

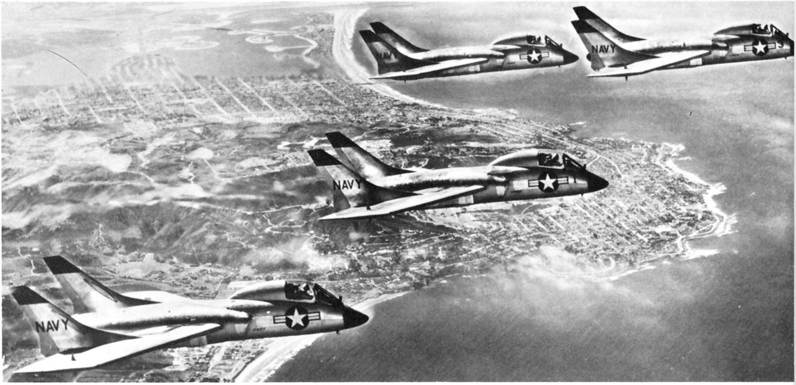
After the F7U-3 went through the Navys new FIP, (Fleet Introduction Program) at NAS Patuxent River, Project Cutlass was instituted. Project Cutlass was setup to evaluate the F7U-3 under operational conditions and to form the basis of the West Coasts first operational squadron.

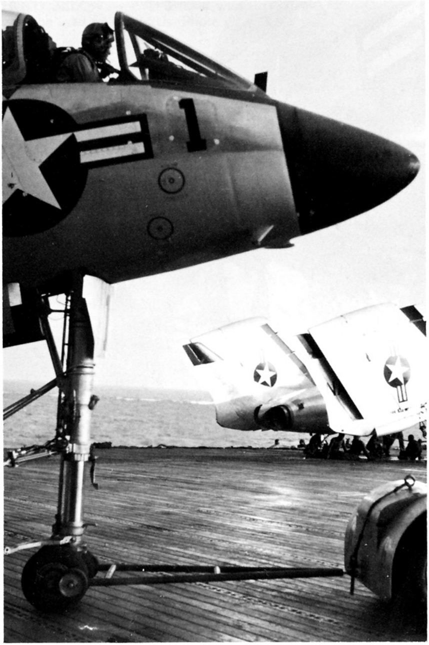
The first F7U-3 assigned to Project Cutlass arrived at NAS Miramar, Ca. on 2 February 1954. LCDR. R.G. Puckett handed #128477 over the LCDR. J.S. Brown, officer in charge of Project Cutlass. By July of 1954 the project had a dozen aircraft and had qualified aboard the USS Hancock. During the carrier ops off the coast of San Diego, the Cutlasses were to make so many launches, landings and touch-and-goes that loss of catapult bridles were deemed too expensive. To prevent their loss, the F7U-3s did not retract their landing gear and kept the bridles in place by attaching bungee cords to the nose gear.

When Project Cutlass wound down, six aircraft and LTs. Schirra, Shelton and Shepherd were transferred to Moffett Field and VC-3. The other six aircraft and CDR. Brown stayed at Miramar as the basis of VF-124.

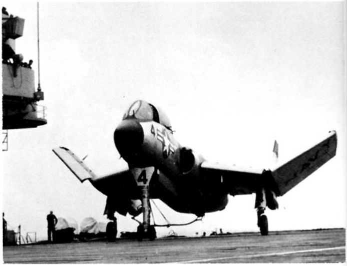
PHOTO BELOW — First F7U3 delivered to Project Cutlass at NAS Miramar on 2 Feb. 1954. Grouped beside 128477 L. to R. D. L. Mills, C.O., Vought's W. P. Thayer, Lcdr. R. G. Pucket, pilot, LCDR J. S. Brown, OINC of Project Cutlass, and Cdr. A. R. Fields, C.O. of Fasron 12. National Archives photo.

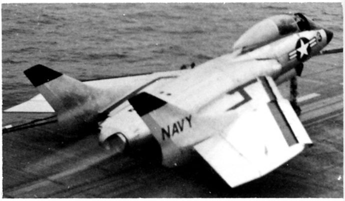


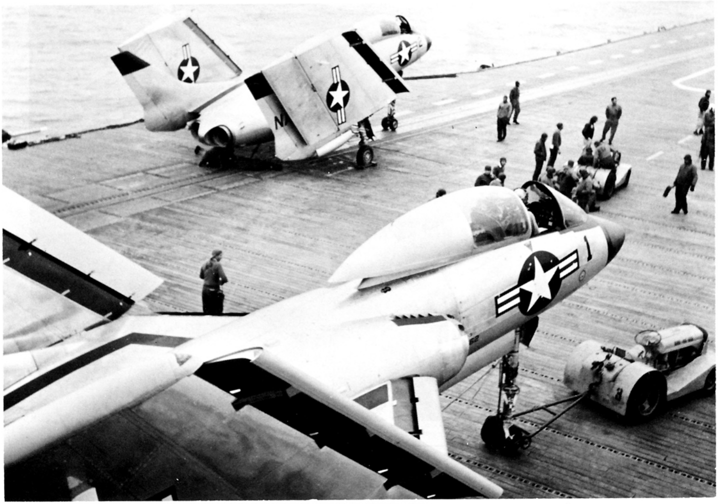




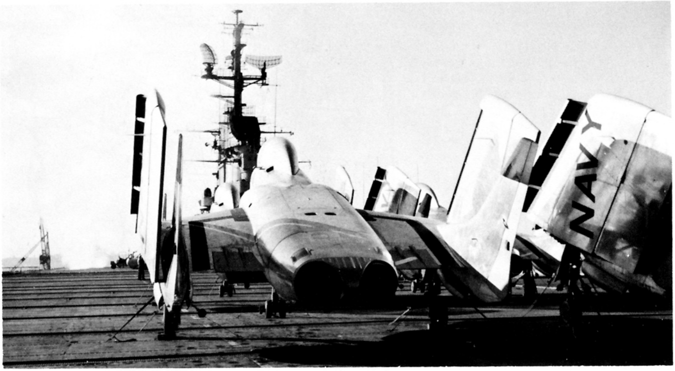
PHOTOS: TOP — Flight of four Project Cutlass birds over to La Jolla, Cal. National Archives photo. LEFT — 129662, being spotted on the USS Hancock (CVA-19). Notice bungee on nose gear. BELOW, TOP — 129657, unfolding wings, note location of #4 on the nose gear door and main gear door. BELOW, BOTTOM — 129678, launching. Photo via AAHS. Fin tips of Project Cutlass birds is gloss black.

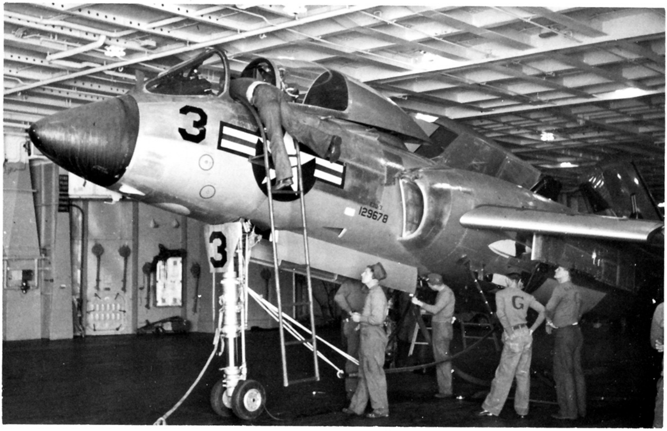




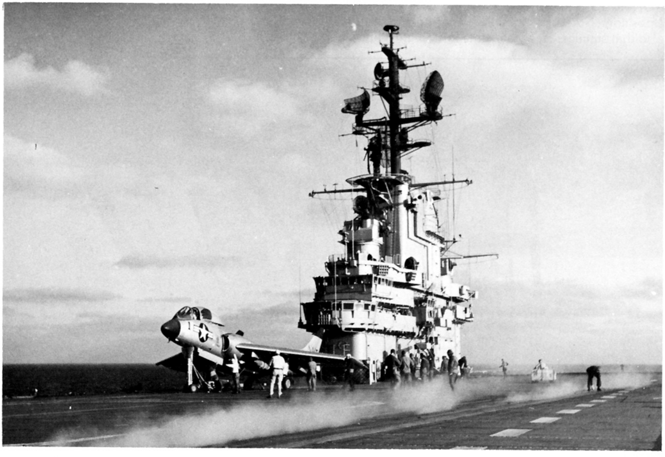


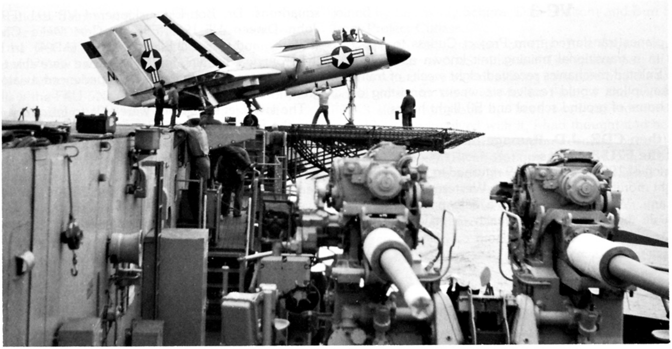
PHOTOS: TOP — Good photo from above showing slats and wing folded position. Note unusual walk panel on top of intake. Note also that stainless steel gas vents for the guns have not been added. Forward plane is 129637. BOTTOM — Good wing folded view from behind, note wing walks and position of NAVY on wing. Photos via AAHS.

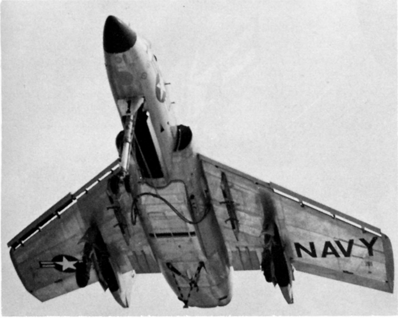


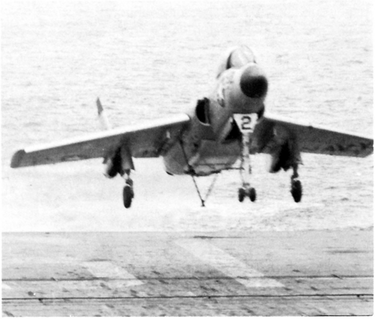


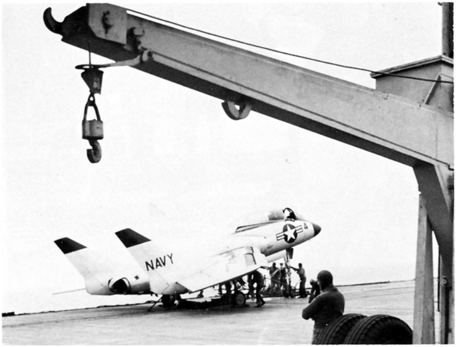
PHOTOS: TOP — F7U-3, 129678, on the hanger deck for maintenance. BELOW — 129662, preparing for launch aboard CVA-19. Note steam from prior launch and bomb fitted to the pylon. Photos via AAHS.



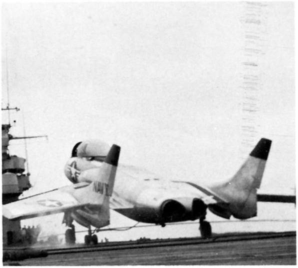








Five photos showing various carrier activities of Project Cutlass aircraft aboard the USS Hancock (CVA-19). All photos via AAHS.



VC-3

The six planes transferred from Project Cutlass to VC-3 were used in a transitional training unit known as Project Checkout. Enlisted mechanics received eight weeks of training while key pilots would receive six weeks consisting of about 150 hours of ground school and 50 flight hours.

RADM. then CDR. J.D. Ramage had this to say of VC-3 and the F7U-3 Cutlass.

In the spring of 1954 Air Group 19 returned to Moffett Field from an eight month deployment to the Western Pacific in the USS Oriskany. We had completed a safe and successful cruise, mainly because of the wealth of talent in the squadrons. Dr. Bob Elder skippered VF-191 (F9F-6), Cdr. John Dineen VF-192 (F9F-5), Cdr. Deke Carr VF-193 (F2H-3), and Cdr. Bill Elliott VA-195 (AD-4). In 1952 when the group was forming for the cruise we were able to proselyte more than our fair share of jet experienced aviators into the group.

The initial jet squadrons were able to introduce jet aviation into the fleet because there was selective personnel detailing and a limited requirement. Later in the Korean War the demand for jet pilots quadrupled and flying relatively high performance jets from straight deck Essex carriers was rather demanding. At the same time our F9F-6 Cougar, the first swept-wing carrier jet, had some rather bad post stall characteristics. Accident rates were high and a requirement for

additional operational training was apparent.

ComNavAirPac, VADM "Beauty" Martin, was very concerned with the F9F-6 Cougar fatality rate. Composite Squadron Three (VC-3) had the mission of providing trained night fighter detachments to the Pacific Fleet carriers. These detachments flew the F4U-5Ns or the F2H-3s. Because of its fleet wide responsibilities, VC-3 was a very large squadron. VC-3 provided a stable training and maintenance capability and was a natural place for a fleet operational training unit. Martin had discussed the situation with Cdr. Duke Windsor who had also returned from a successful Cougar cruise as skipper of VF-21 in USS Yorktown. Windsor probably more than anyone else was responsible for the start of Cougar College as a part of VC-3. In May, 1954, I was transferred from CAG-19 to cmmand VC-3. Concurrently Duke moved in as my exec.

The purpose of the Transitional Training Unit was to take four of the pilots assigned to each jet squadron that was forming on the West Coast through a short familiarization course in their new aircraft. The Replacement Air Groups of World War II had been de-commissioned resulting in no fleet training in operational aircraft. We would at least get these key pilots and a limited number of maintenance personnel through the familiarization stage.

Windsor was able to acquire Lcdr. Bud Sickel as the Dean of the Cougar College. Bud was among the best qualified jet jocks of the time. In addition to Navy Test Pilot duties he had completed an exchange tour with the USAF in a fighter squadron. Soon we were told that we would also take on FJ-3 training was well. Bud's instructors were Lcdr. Jim Tuttle, Lts. Bob Baldwin and Addison Brown. They were soon to be joined by Lts. Wally Schirra, Don Shelton, and Burt Shepard from Project Cutlass.

Project Cutlass, headed by Cdr. Bud Brown, had been operating out of NAS Miramar. The major part of Project Cutlass would go into a deploying squadron and the remnants would come to VC-3 at Moffett Field. I had watched the F7U-3 slowly approach the fleet, but I did not think that I would become involved with it. I had thought it to be a dead duck because of the various reports coming out of the Test Center at Patuxent River. But one morning I looked out at the flight line and there were six of them. Then I wanted to be one of the first students.

The familiarization course consisted of about one day of ground school and six to eight flights. By 1954 the engines had been de-rated so much that there was no performance without the afterburners. I found the aircraft to be very stable in flight, a rocking chair in fact. In approaches to a stall it seemed to be normal in every way. We were warned that after take off afterburner should be shut down immediately because it was possible to run out of fuel in the main cell which fed the engines as it could not be filled fast enough from the auxiliary tanks to keep the engines running. In other words one could flame out from fuel exhaustion with about 90% of the fuel yet unburned! At altitude without afterburner you felt like you were on top of a bowling ball, not knowing which way you were going to fall off.

The final familiarization flight was a trip through Mach I. This could only be done by a tedious climb to about 35,000 ft. and a roll over on your back followed by a pull through vertical dive in afterburner. Burt Shepard chased me through this endeavor. The needle laboriously approached Mach and wiggled perceptibly so I may have made it. At least I so told Burt.

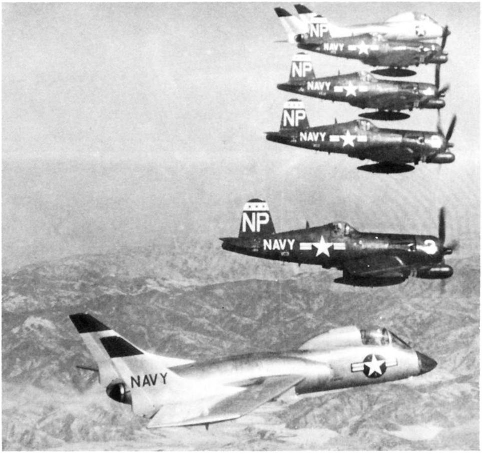
Lt. Po Harwell, also based at Moffett, was a constant source of annoyance. He begged for a chance to check out in the

COMPOSITE SQUADRON THREE

PHOTO TOP — Composite Squadron Three patch. Grey Knight with black markings and book. Red V. Light blue shield on dark blue field. White boarder with black lettering. Photo by Steve Ginsberg.

PHOTO AT LEFT — Cdr. J. D. Ramage (pilot) beside F7U-3, 129550. Note nose stenciling, small circles are red. National Archives photo.

PHOTO AT RIGHT — Two F7U-3s of VC-3 in flight with four F4U-5Ns. Note F7Us still have Project Cutlass markings. National Archives photo.



bird. Sickel agreed that if he completed the one day ground school that he could have one flight. His flight was chased by Wally Schirra. The brief adventure was terminated as Po passed 3,500 ft. on climb out when his chase pilot radioned "Your on fire! Bail out!" He pulled the curtain just before the F7U detonated. It preceded him into the salt flats just to the north of the field. A soggy Harwell arrived back at the squadron asking "How do I log this thing?"

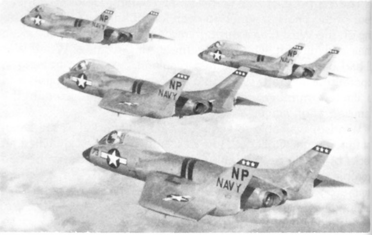
It became obvious that we had a real problem with the Cutlass, when a student pilot had gotten into an unrecoverable gyration during a simulated combat maneuver. The pilot bailed out, and during the ensuing investigation it was determined that the aircraft was well within the safe V/G regime. Since the pilots handbook clearly stated that the plane would not spin, Sickel decided to investigate.

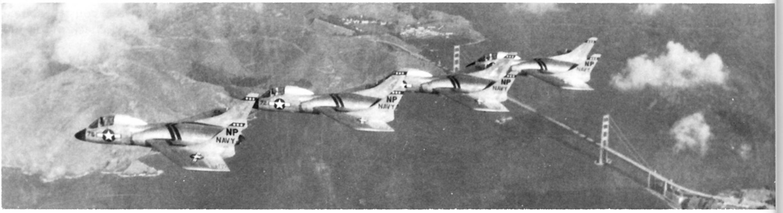
Sickel was chased by Bob Baldwin in an FJ-3. He was checking stall points during turns, well within the prescribed limits, when the Cutlass departed on him. He rode the bird from 30,000 to 12,000 ft. when he realized that even with his experience there was no way to recover. He bailed out and escaped injury, although the seat did become entangled and ripped a panel from his parachute.

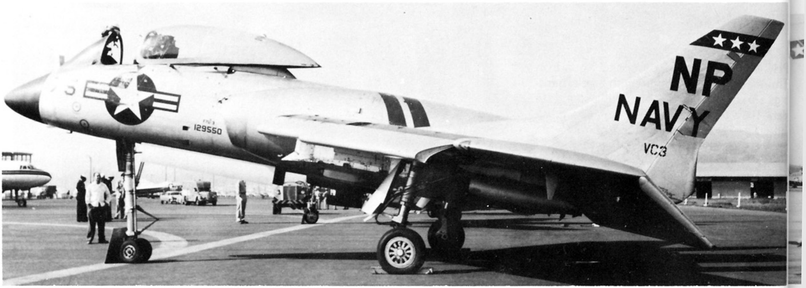
I advised ComNavAirPac that I wanted an immediate meeting with Vought flight test personnel. At the meeting the Vought test pilot started that the handbook was correct, the Cutlass would not spin. He was asked if he was familiar with the maneuver which our student pilot and Sickel had encountered. He said that he was, and that it was not a spin but a post stall gyration. He was then asked if he had ever experienced the sensation. He answered in the affirmative. When asked what action he took he responded, "I bailed out!"

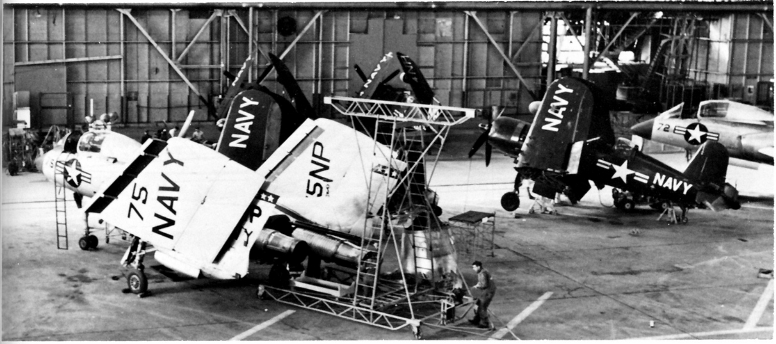
VC-3 had been conducting an ongoing study of the deployability of the Cutlass. The post stall gyration situation only added to the many reasons why the aircraft was not acceptable for fleet use. After a briefing by Sickel VADM Martin withdrew the F7U-3 from two or more fleet squadrons and assigned them F9F-8s. There were fleet deployments of Cutlass squadrons on each coast, but the squadrons were based ashore in the Med and WestPac during most of those cruises.

PHOTOS: TOP — Four VC-3, F7U-3 aircraft on a practice intercept problem in Jan. 1955. MIDDLE — Same aircraft over Golden Gate Bridge. National Archives photos. BOTTOM — F7U-3, 129550, at San Francisco on 7-30-55. Bird is overall natural metal with blue fuselage and fin stripes. Stars on fin are white. Photo by W. T. Larkins.








NAVY
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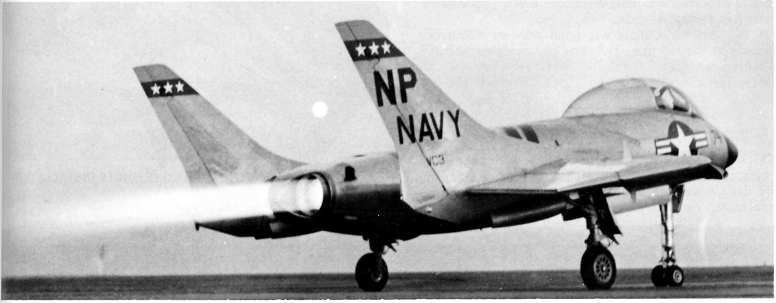
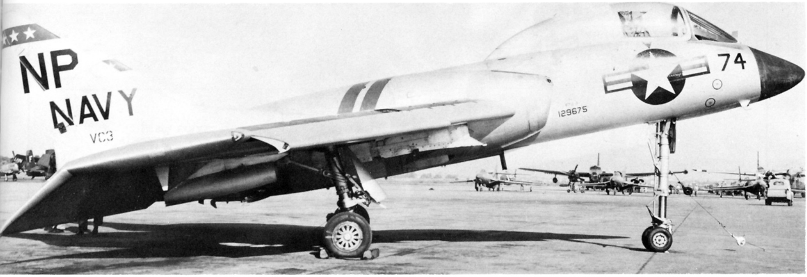
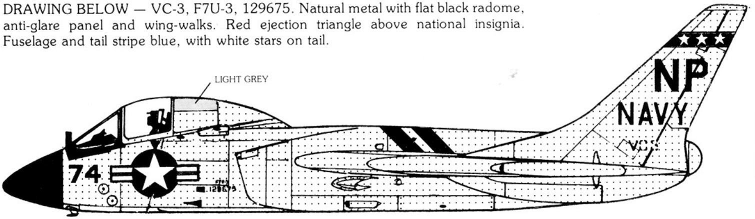
72
NAVY

PHOTOS: TOP — F7U-3, 129550, undergoing an engine change in a Moffett Field hanger. Tail cone has been removed, exposing engines. Note underwing and upperwing markings of this F7U-3. MIDDLE — Afterburner take-off of F7U-3, 129675. National Archives photos. BOTTOM — F7U-3, 129675 at Oakland on 9-18-55. W. T. Larkins photo.




NP
NAVY
VC3
74
129675

DRAWING BELOW — VC-3, F7U-3, 129675. Natural metal with flat black radome, anti-glare panel and wing-walks. Red ejection triangle above national insignia. Fuselage and tail stripe blue, with white stars on tail.



STALL AND SPIN TESTING

As detailed in ADM. Ramage's recollections of the Cutlass, the violent maneuver that caused the two VC-3 pilots to eject had to be corrected. The Navy asked Vought to come up with a solution and they set corporate test pilot John McGuyrt to the task. On 7 April 1954 McGuyrt too entered into the post stall gyration and had to eject. After this incident Vought detailed Don Schultz to fly the tests.

During the next eight months Schultz would fly more than a hundred test hops in F7U-3 129566. These tests would prove out the wind tunnel results that indicated the F7U-3 would right itself if the stick was neutralized or released, provided the Cutlass had enough altitude.

For the tests the Cutlass was fitted with an emergency parachute in the tailcone. This specially modified airframe was turned over to the Cornell Aeronautical Laboratory for further gyration testing. At Cornell, "566" was fitted with two large vertical fins or vanes along the vertical plane in front of the cockpit. These vanes were operated by an automatic control system and was piloted by John Seal.

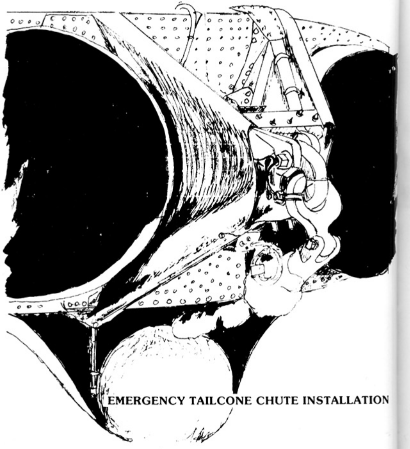
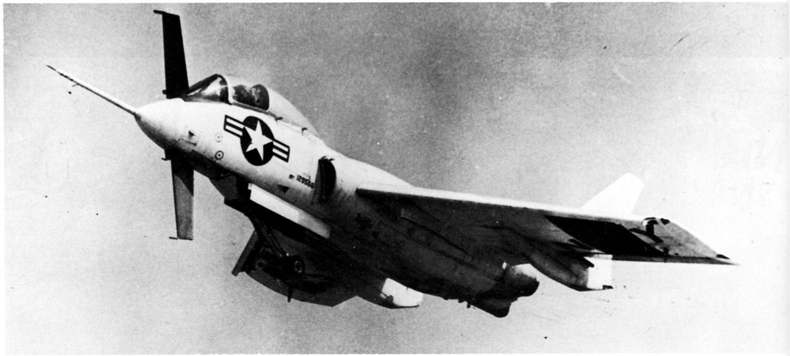
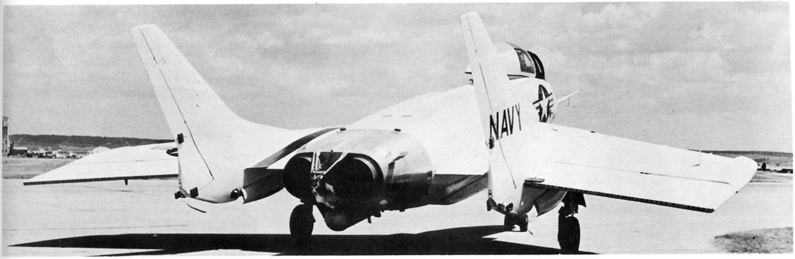
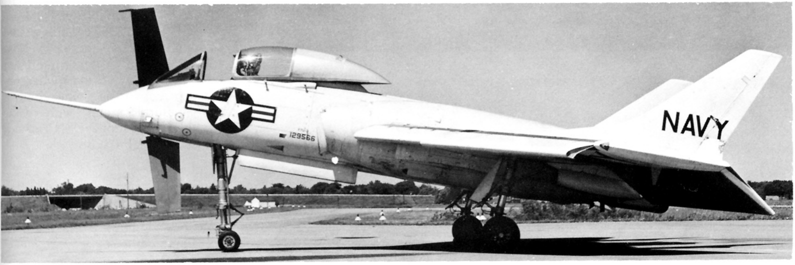

EMERGENCY TAILCONE CHUTE INSTALLATION

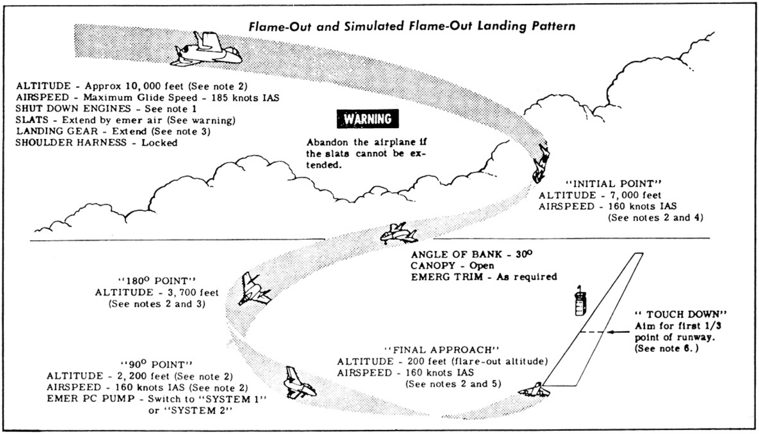
PHOTO BELOW — F7U-3, 129566, fitted with ventrals for the gyration testing. Aircraft is overall white with what appears to be day-glo ventrals and underwing panels. Tail cone is natural metal. Tailhook photo VF-0711.





PHOTOS ABOVE — Rear view of 129566, showing emergency chute installation. Vought photo. BELOW — 129566 as tested at Cornell. White with natural metal canopy and landing gear. Vertical fins on nose and area under wings believed to be red or day-glo. Smithsonian photo.





Flame-Out and Simulated Flame-Out Landing Pattern

ALTITUDE - Approx 10,000 feet (See note 2)
AIRSPEED - Maximum Glide Speed - 185 knots IAS
SHUT DOWN ENGINES - See note 1
SLATS - Extend by emer air (See warning)
LANDING GEAR - Extend (See note 3)
SHOULDER HARNESS - Locked

WARNING

Abandon the airplane if the slats cannot be extended.

"INITIAL POINT"
ALTITUDE - 7,000 feet
AIRSPEED - 160 knots IAS
(See notes 2 and 4)

ANGLE OF BANK - 30°
CANOPY - Open
EMERG TRIM - As required

"180° POINT"
ALTITUDE - 3,700 feet
(See notes 2 and 3)

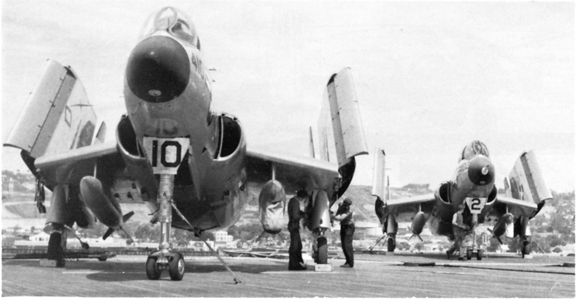
" TOUCH DOWN"
Aim for first 1/3 point of runway.
(See note 6.)

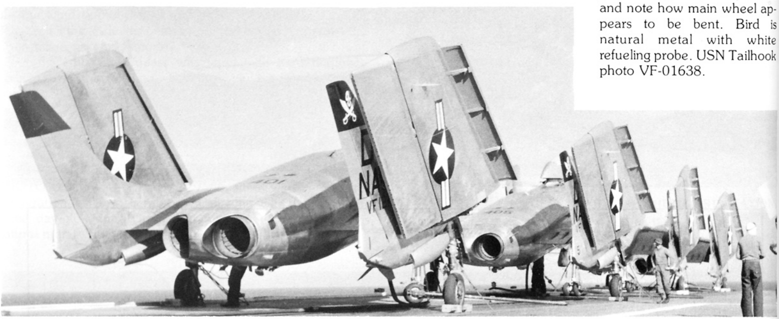
"FINAL APPROACH"
ALTITUDE - 200 feet (flare-out altitude)
AIRSPEED - 160 knots IAS
(See notes 2 and 5)

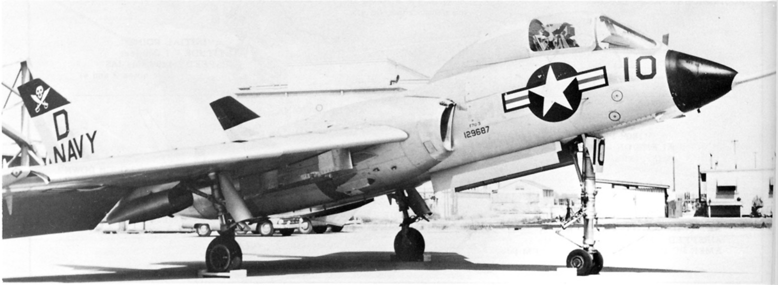
"90° POINT"
ALTITUDE - 2,200 feet (See note 2)
AIRSPEED - 160 knots IAS (See note 2)
EMER PC PUMP - Switch to "SYSTEM 1" or "SYSTEM 2"

VF-124

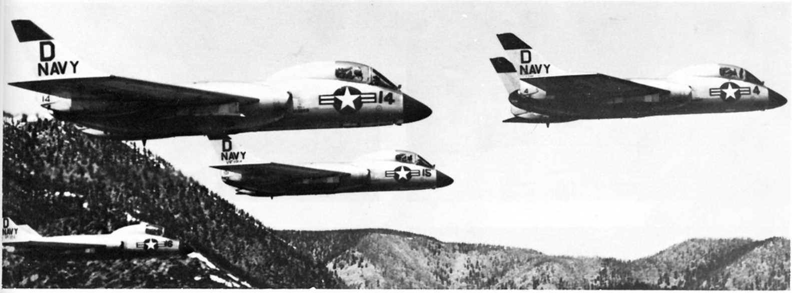
As stated earlier VF-124 was created from Project Cutlass, with Cdr. Brown as the C.O. The squadron was to fly the F7U-3 till March 1956. In 1955/56, VF-124 deployed aboard the USS Hancock (CVA-19) as part of CFG-12, to the West Pacific.







PHOTOS: TOP — Two all silver F7U-3s on board CVA-19 in San Diego Bay. Aircraft are 402/D and 410/D, note nose gear door numbers and D on wing. Photo via AAHS. MIDDLE — Four VF-124 birds on the forward flightdeck. Note white skull and crossed sabres on the black fin tip and tail code D with VF-124 below NAVY. Also note location of 401 on top of fuselage. USN Tailhook photo VF—0407. BOTTOM — F7U-3, 129687, in natural metal scheme. Photo via W. T. Larkins. PHOTOS AT RIGHT: TOP — Four VF-124 birds without tail skull and swords, #14 is 129658, #15 is 129672, and #4 is 129657. USN photo. BOTTOM — F7U-3, 129577, lands aboard CVA-19 in Sept. 1955. Nose gear is completely compressed and note how main wheel appears to be bent. Bird is natural metal with white refueling probe. USN Tailhook photo VF-01638.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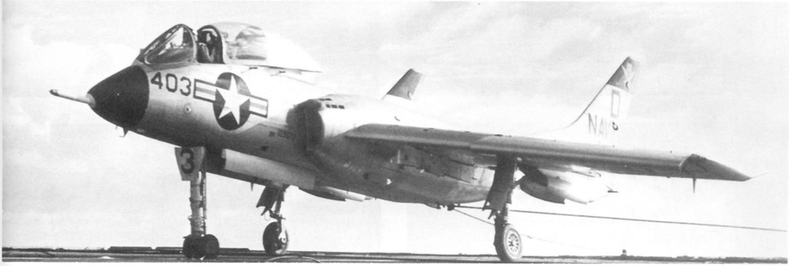
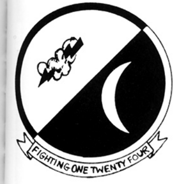
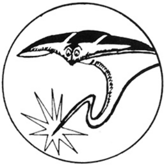
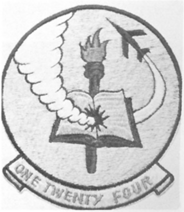


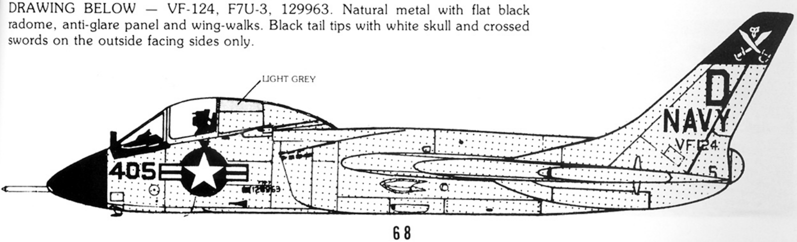

FIGHTING ONE TWENTY FOUR

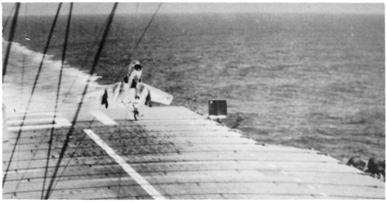


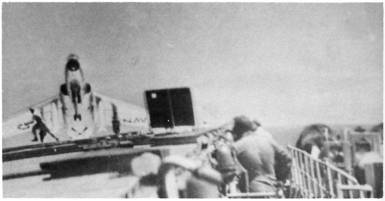
VF-124


ONE TWENTY FOUR

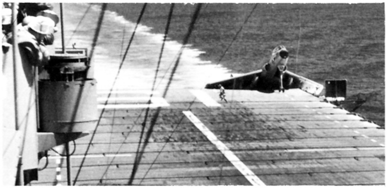
DRAWING BELOW — VF-124, F7U-3, 129963. Natural metal with flat black radome, anti-glare panel and wing-walks. Black tail tips with white skull and crossed swords on the outside facing sides only.

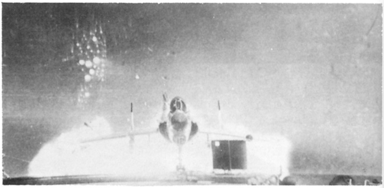

LIGHT GREY
405
129963
D
NAVY
VF-124
5

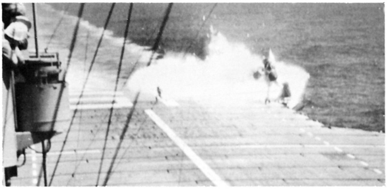


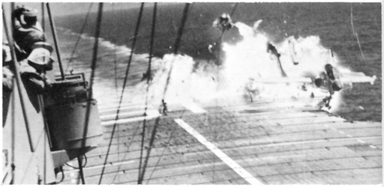


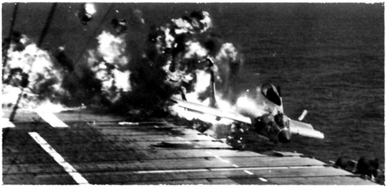
NAVY

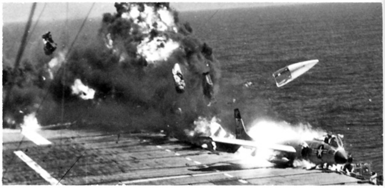


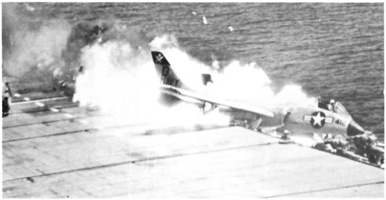












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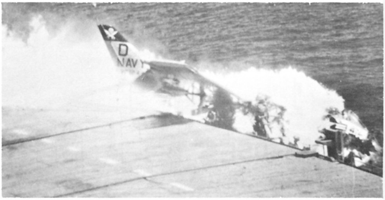

D
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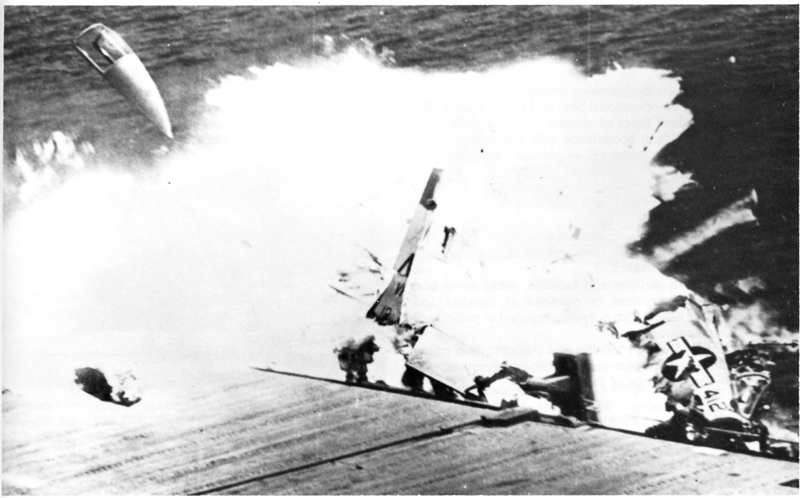
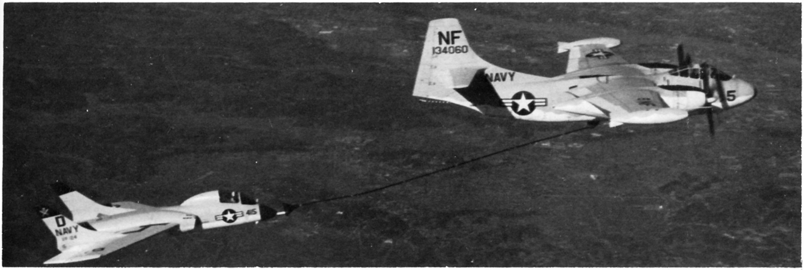


Eleven photo sequence showing LCDR. Jay Alkire crashing on the USS Hancock on 7-14-55. USN photos via Steve Ginsberg. PHOTOS BELOW — Three photos of VF-124 Cutlass aircraft in the grey and white scheme, #415 is 129601. Note D only on upper wing and not on bottom. USN photos.


NF
134060
NAVY
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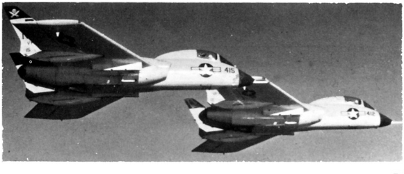
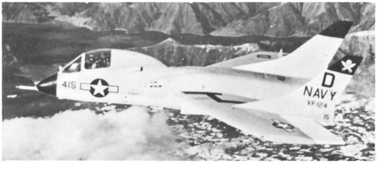
VF-124
415




415
D
NAVY
VF124
15

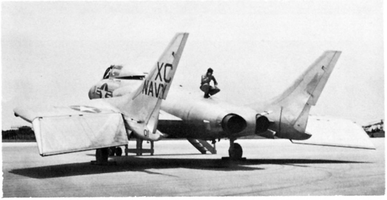
VX-3
AIR DEVELOPMENT SQUADRON THREE

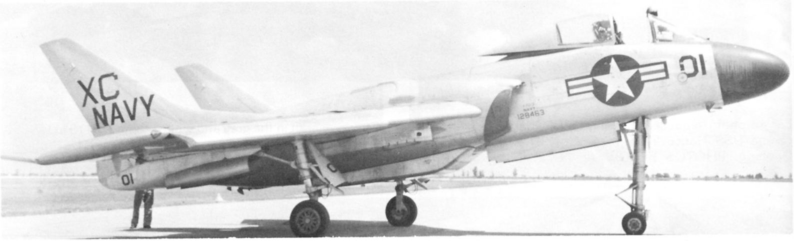
VX-3 was commissioned on 20 Nov. 1948 by combining VF-1L and VA-1L.

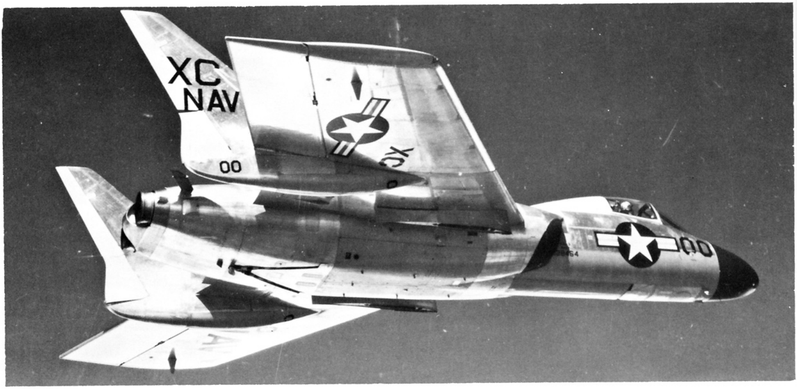
VX-3 was assigned the following mission:

1. Evaluate, by operational test, and report on the new and standard types of aircraft, airborne equipment and methods in accordance with assigned projects. In general, projects will emphasize carrier applications of weather, altitude and loading.
2. Recommend methods for the most effective tactical employment of new and standard equipment and craft evaluated.
3. Recommend training procedures, training aids and countermeasures for new and standard equipment and methods evaluated.
4. Assist, with services and facilities, other naval and extra-naval activities or agencies as directed and maintain liaison with agencies engaged in projects of mutual interest.
5. Maintain, through training and indoctrination, maximum combat operational readiness commensurate with the discharge of the above.

PHOTOS: TOP — F7U-3, 128463, bulb-nose, from VX-3. Collect-Air photo. MIDDLE — same aircraft with rocket pack installed. Note redesigned intake and location of 01 on nose, gear door and bottom of fin. Significance of bulge on top of fuselage is unknown. Photo by Balogh via W. T. Larkins. BOTTOM — Bulb-nosed F7U-3, 128464 of VX-3 in flight. Aircraft is natural metal with light grey canopy, note location of XC under the wing. The little bumps under the fuselage center section are for attaching the rocket pack. Note fuel dump tube atop tail cone. National Archives photo.







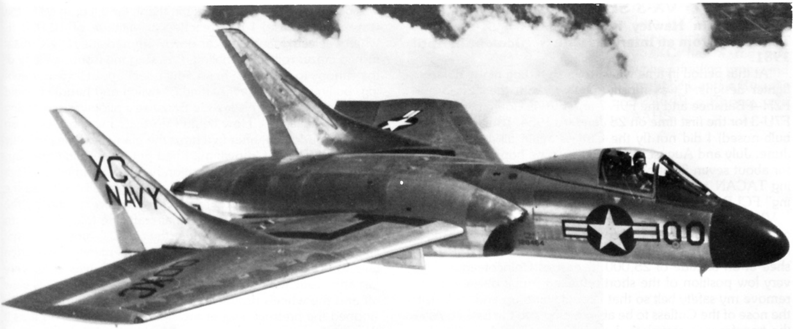
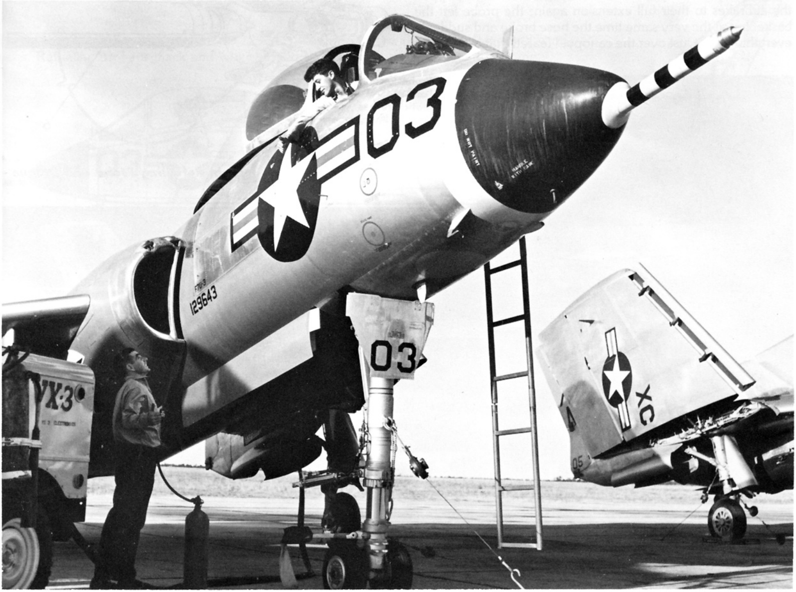


PHOTO: TOP — F7U3, 128464, again, note the location of the squadron codes on the upper wing. Photo taken at 15,000 ft. on 9 May 1953, National Archives. BOTTOM — Two mechanics turn up engine on F7U-3, 129643, 20 Oct. 1954. Note that this VX-3 Cutlass is a full production aircraft with the refueling probe installed. Probe is painted red and white and there is a white stripe behind the radome. Note small blade antennae in front of nose gear door.

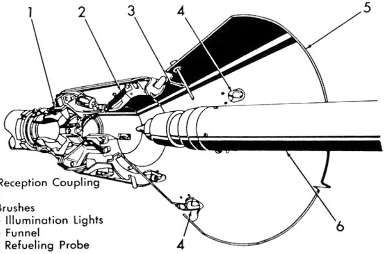


VX-3 SEA STORY

By Captain Hawley Russell, CO of VX-3, 1954. Translated from an interview with S. Nicolaov in April 1981.

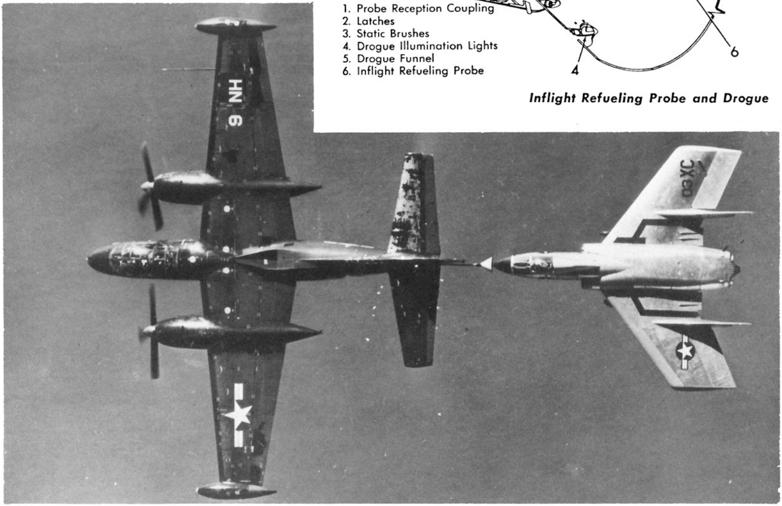
"At that period in time we were busy testing many different fighter designs. I was mostly involved with the F2H-3 and F2H-4 Banshee and the F9F-7 and F9F-8 Cougar. I flew the F7U-3 for the first time on 28 January 1954. (BuNo. 128466 bulb-nosed) I did not fly the Cutlass again till June. During June, July and August of 1954 I flew nine hops in the F7U-3 for about seven flight hours. During these flights, I was making TACAN approaches, GCA landings and many "bouncing" FCLPs (Fleet Carrier Landing Practice).

VX-3 was also testing aerial refueling procedures and now comes the story. It was 13 September 1954 and I was flying in company with a AJ-2 Savage (tanker) and a F2H-2P Banshee at an altitude of 25,000 ft. east of Chincoteague. The very low position of the short refueling probe obliged me to remove my safety belt so that I could stand up and look over the nose of the Cutlass to be able to plug into the basket. After the transfer was complete, I sat back down and prepared to separate from the tanker. At this point I was still unfastened in my seat. I bled off a few knots to disconnect the probe from the basket, only to see the hose unreeling under the Savage. When the whole hose was extended, I was still hooked up. My position was even more uncomfortable because the basket was hiding the airspeed indicator. Several attempts were unsuccessful, having the only result to decrease rather dangerously the airspeed of both airplanes. Finally I popped the airbrakes to their full extension again; the probe left the basket but at the very same time the hose broke and suddenly everything went just over the canopy. I feared that all this stuff was going to tangle on the fins but thank God it didn't. On the way back to base, I had reached an altitude of 10,000 ft. when I selected landing gear down. Immediately the Cutlass turned crazy; rolling, tumbling, throwing me from one side of the canopy to the other, head down, feet up, hell I was grabbing, pulling, pushing every kind of switch and handle I could reach and in the earphone the Banshee's pilot was screaming "eject, eject, eject". How could I do that? I was not even on my seat! Suddenly, after five turns the plane became perfectly still again. Without knowing it I had put the landing gear up. On the ground, my critical position had been immediately felt in the operations room where a Cutlass specialist advised me that the automatic yaw dampener had been sprung by the hose or the basket departing the aircraft. He told me to turn off a switch on the left back under the seat . . . you know that little switch you never notice before an emergency. I was then able to get the gear down and my approach was very, very fast and I touched down at about 200 knots. All the tires blew off and the wheels produced huge sparks. When the Cutlass stopped the firetruck was at my side and I jumped on it as it was dangerous to jump from the very high cockpit. That was my last flight inside a Cutlass (129649)".



1. Probe Reception Coupling
2. Latches
3. Static Brushes
4. Drogue Illumination Lights
5. Drogue Funnel
6. Inflight Refueling Probe

Inflight Refueling Probe and Drogue



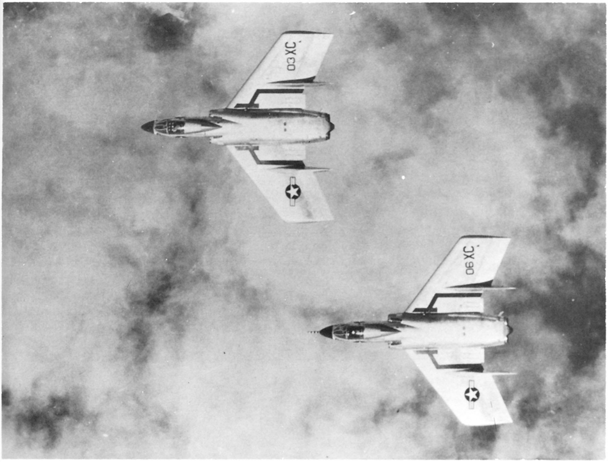


PHOTO AT LEFT — Two VX-3 F7U-3s from above, note wing codes. 06/XC has a red and white refueling probe and might be Captain Russells 129649. Photo via AAHS.

DRAWING BELOW — VX-3, F7U-3, 129643. Natural metal with black radome and wing-walks. Refueling probe is black and white striped. White stripe or band behind radome.

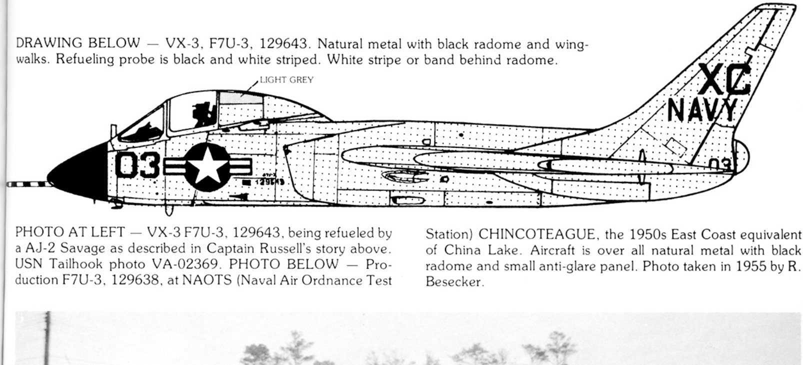
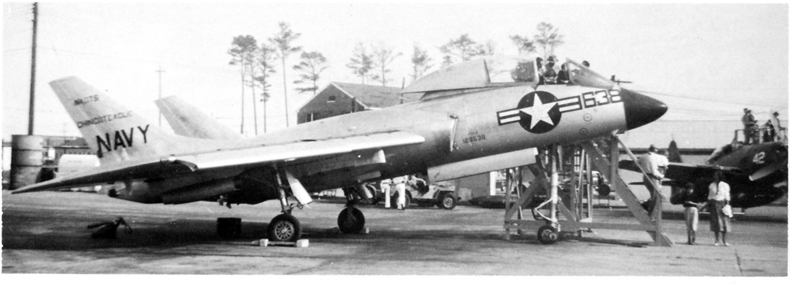


PHOTO AT LEFT — VX-3 F7U-3, 129643, being refueled by a AJ-2 Savage as described in Captain Russell's story above. USN Tailhook photo VA-02369. PHOTO BELOW — Production F7U-3, 129638, at NAOTS (Naval Air Ordnance Test Station) CHINCOTEAGUE, the 1950s East Coast equivalent of China Lake. Aircraft is over all natural metal with black radome and small anti-glare panel. Photo taken in 1955 by R. Besecker.



VX-4

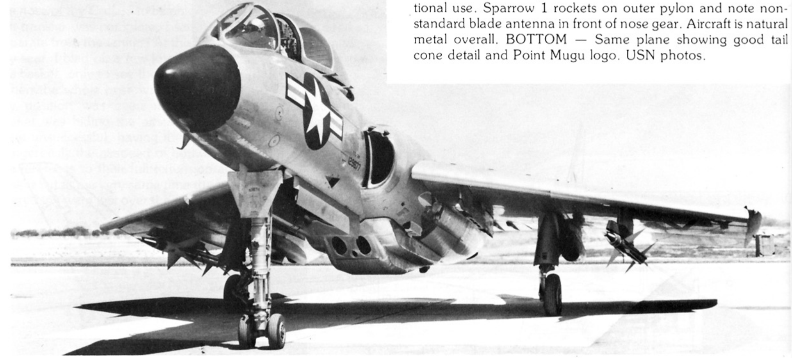
AIR DEVELOPMENT SQUADRON FOUR

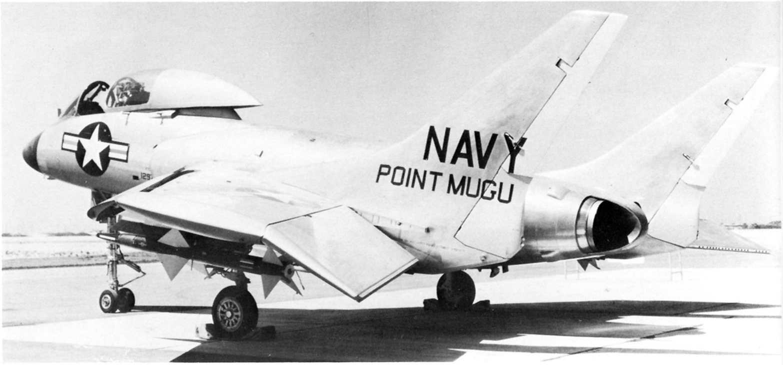
Commissioned in 1950 on the East Coast, VX-4 was initially charged with the development of multi-engine Airborne Early Warning (AEW) radar planes and systems. From the New England area, VX-4 moved to NAS Patuxent River, Maryland in 1951. Shortly thereafter, with its AEW projects completed, VX-4 was decommissioned in order to form one complete AEW squadron as well as the nucleus for several others.

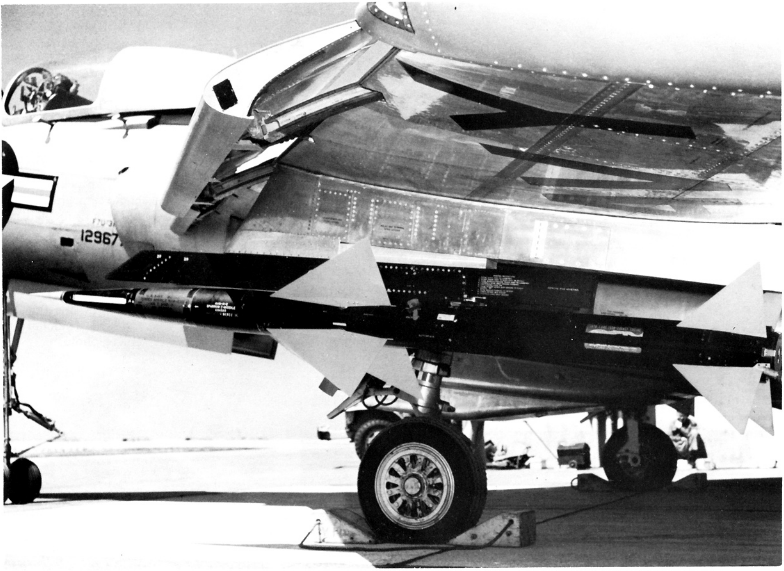
On 15 Sept. 1952, VX-4 was brought into being at its current home, Naval Missile Center, Point Mugu, Calif. The squadron was recommissioned under the command of CDR. James G. Sliney. The squadrons new mission was to operationally evaluate air-launched guided missiles and their related systems, and to establish the techniques and procedures which would give the fleet the maximum utilization of an aircraft and its given missile system.

The development of the Sparrow I missile became the first project for VX-4, and one aircraft used extensively for this purpose was F7U Cutlass. Twice the squadron was called upon to deploy four plane detachments onto carriers. This was due in part to the familiarity and expertise acquired during the development of the Sparrow weapon system by personnel in VX-4. They deployed once in 1956 aboard the USS Lexington (CVA-16) and once aboard the U.S.S. shangri-La (CVA-38) in 1956-7. Aboard the Lexington VX-4 was part of ATG-1 (Air Task Group-1) and shared the boat with another F7U squadron, VA-151. During the six months VX-4 was aboard the Shangri-La, they were attached tc CVG-2.

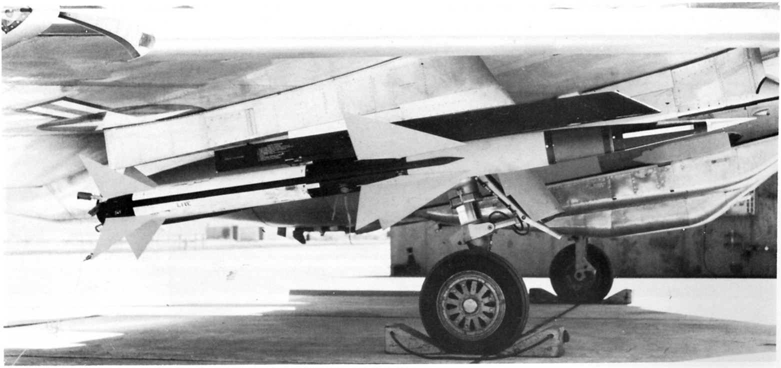
PHOTOS: TOP — F7U-3M, 129677, at NAS Point Mugu on 4-1-55. Note late style rocket pack, which saw little operational use. Sparrow 1 rockets on outer pylon and note non-standard blade antenna in front of nose gear. Aircraft is natural metal overall. BOTTOM — Same plane showing good tail cone detail and Point Mugu logo. USN photos.

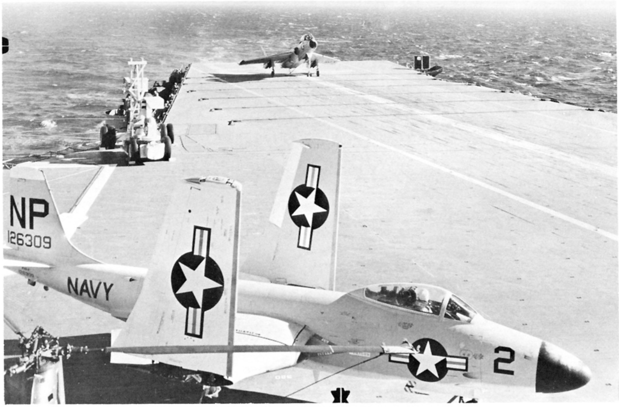




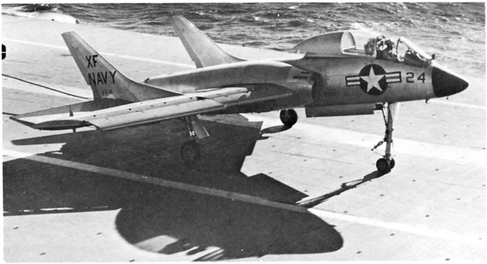


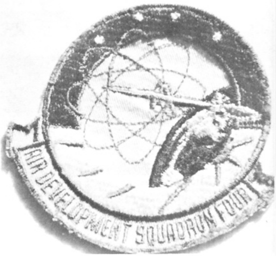
PHOTOS: TOP — Sparrow 1 missile mounted on outboard pylon of Cutlass, photo shows excellent pylon and wing rivet details along with slat rail details. BOTTOM — Other side of same plane, this photo shows better detail on the missile as well as excellent main gear detail and a good side view of the rocket pack. USN photos taken on 4-7-55.



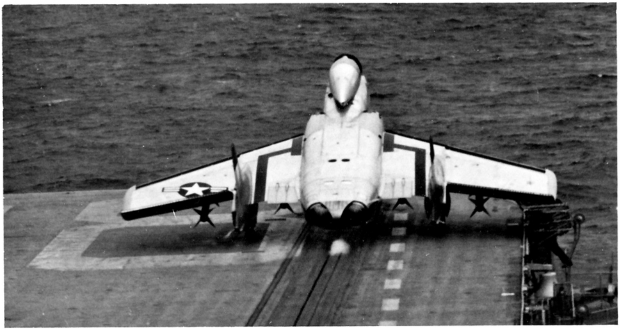


PHOTOS: TOP — F7U-3M, 129723, lands aboard USS Shangra-la (CVA-38). Note VC-3, F2H-4, see Naval Fighters #2. MIDDLE — Same plane at completion of landing, note that Cutlass is natural metal and has a small VX-4 on tail. This aircraft also does not have the modified intakes. USN photos via Stan Wyckoff. BOTTOM—VX-4, F7U-3M, with four sparrow missiles being catapulted off the bow of CVA-38. National Archives photo.

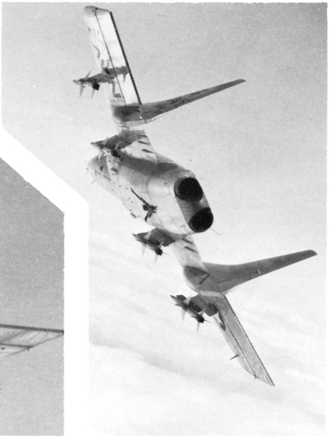


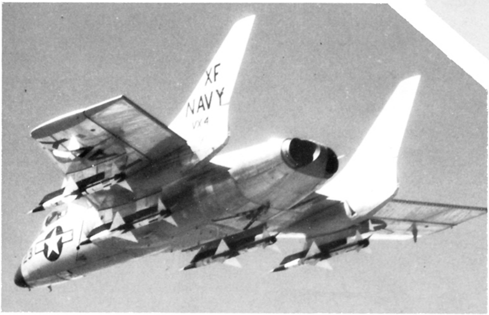


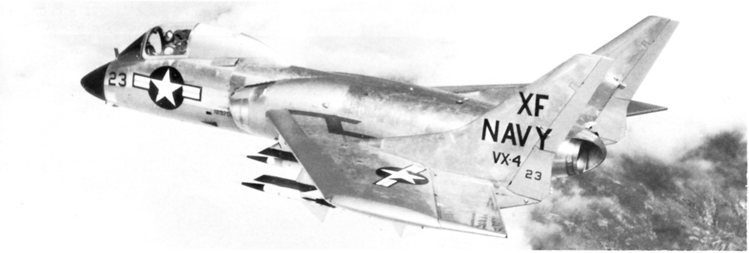
VX-4 patch, boarder, lettering and ocean medium blue. Sky and background for lettering gold. Missile and continents grey. Red neutron tracks, missile flame and sun and hash marks on a white field. White stars. Photo by Steve Ginsberg.

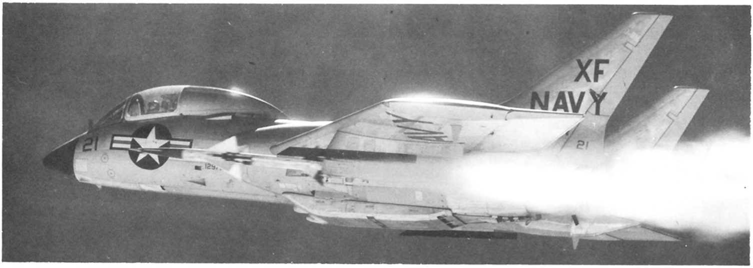


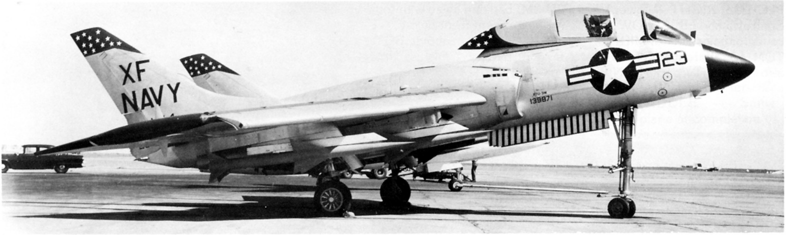
PHOTOS: RIGHT — Silver VX-4 F7U-3M, banking away with four Sparrows aboard. BELOW, TOP — Same aircraft from below, see cover for color details. MIDDLE — 129703 again from above. BOTTOM — Different VX-4, F7U-3M, fireing Sparrow 1 missile. Note also rocket belly pack. USN photos via Stan Wyckoff.

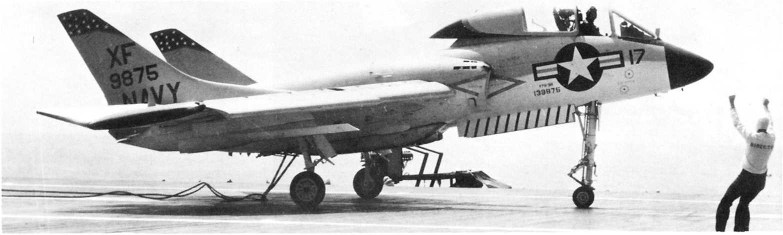


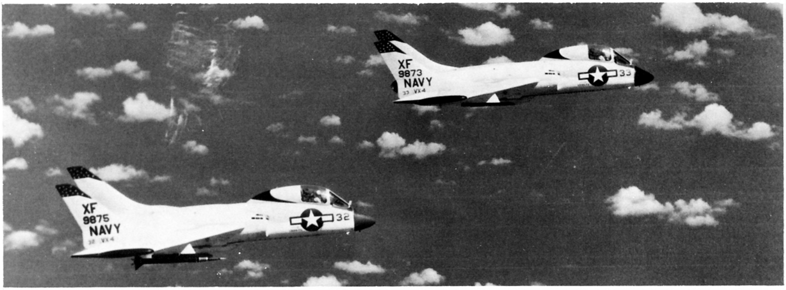

XF
NAVY
VX-4
23


23
XF
NAVY
VX-4
23

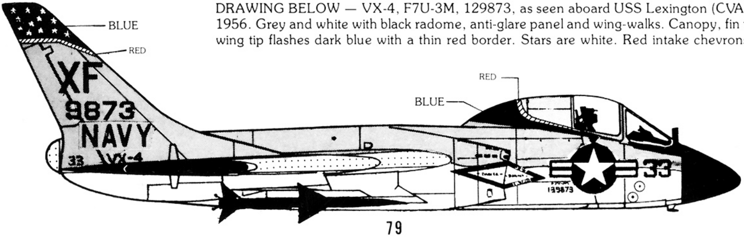

XF
NAVY
21
21

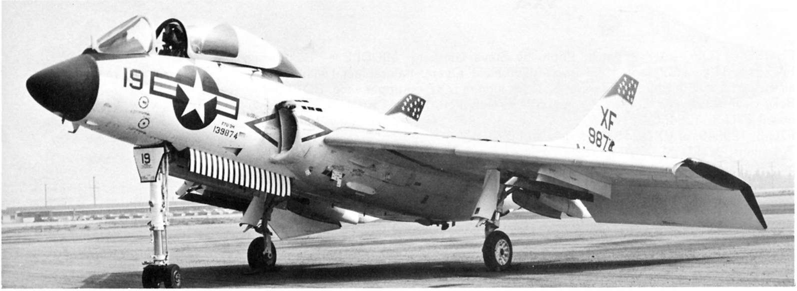

XF
NAVY
23
139871


XF
9875
NAVY
17
139875

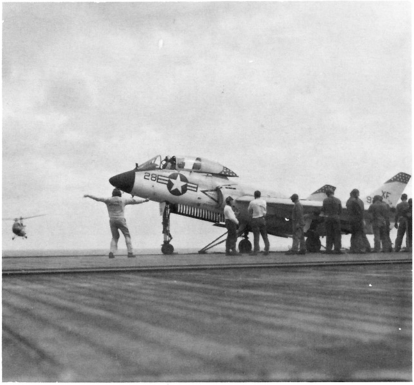

XF
9873
NAVY
33 VX-4
33
XF
9875
NAVY
32 VX-4
32

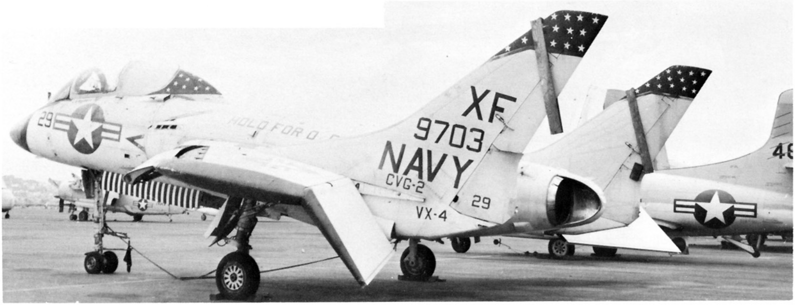
DRAWING BELOW — VX-4, F7U-3M, 129873, as seen aboard USS Lexington (CVA-16) in 1956. Grey and white with black radome, anti-glare panel and wing-walks. Canopy, fin tip and wing tip flashes dark blue with a thin red border. Stars are white. Red intake chevrons.


BLUE
RED
XF
9873
NAVY
33
VX-4
RED
BLUE
33
139873



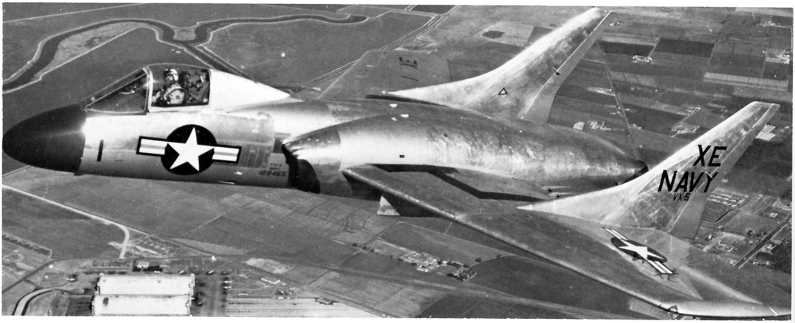
PHOTOS AT LEFT: TOP — F7U-3M, 139871, of VX-4 in overall metal color. Photo taken on 9-56, note intake has been modified. Photo by P. M. Bowers via W. t. Larkins. MIDDLE —F7U-3M, 139875, of VX-4, in the grey and white scheme, after landing on carrier. Note silver rocket pack and modified intake which covers part of red warning chevron. Also note difference in the width of the blue stripes on the nose gear door as compared to that of 139871 and 139874. Vought photo. BOTTOM — Two VX-4, F7U-3Ms from the USS Lexington (CVA-16), on 7-56. Plane in the foreground is 129875 again with a new modex, 32. Other F7U-3M is 129873. Planes are grey and white with blue rocket rails. National Archives photo. PHOTOS THIS PAGE: TOP — F7U3-M, 139874, at NAS Point Mugu. Note location of stencil markings and small 19 on the nose gear door. Also note blue boarder around edges of nose gear door, and white gear and main wheels. USN photo via Stan Wyckoff. MIDDLE — F7U-3M, 129700, ready to launch from the USS Shangra-La (CVA-38) on 2-57. Writing under the canopy identifies the pilot as Lcdr. J. S. Christiansen. National Archives photo. BOTTOM — F7U-3M, 129703, at NAS North Island on 9-12-59. Note hold for O and R painted on the fuselage, and CVG-2 on fin. Photo by Swisher. Trim on all these VX-4 birds is as outlined on drawing at left.

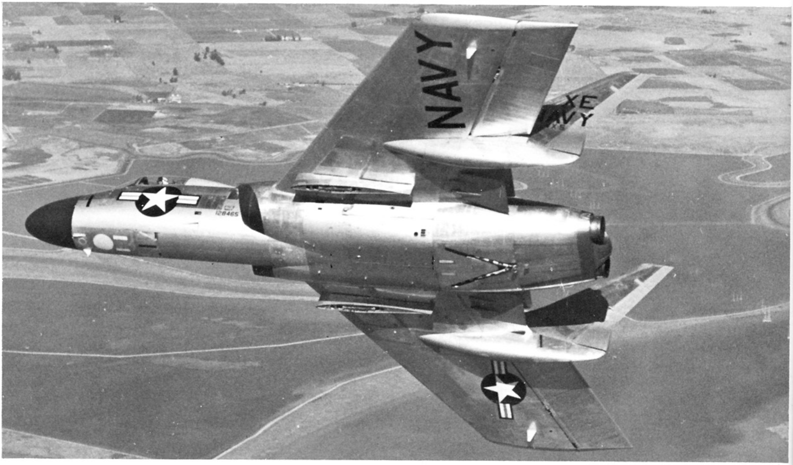


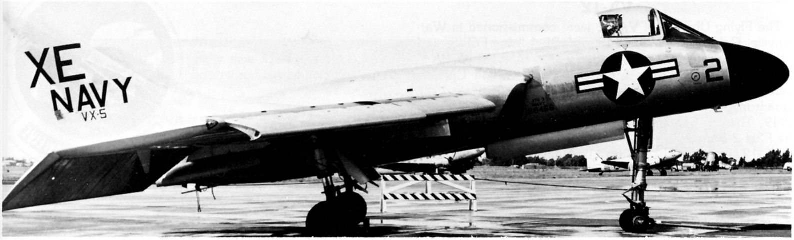


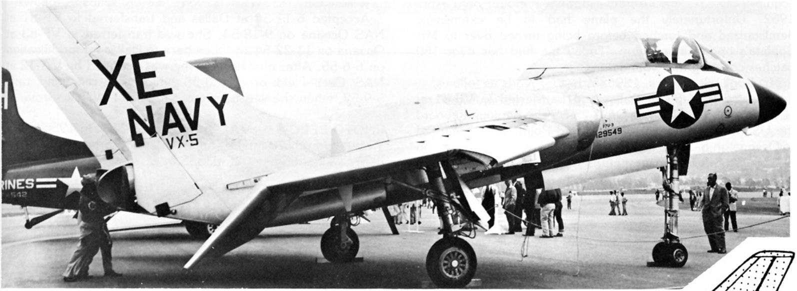
VX-5

PHOTOS: TOP — VX-5 patch. Photo by Steve Ginsberg. MIDDLE — Bulb-nosed F7U-3, 128465, on 9 Sept. 1953 over Moffett Field. Overall natural metal with flat black air intake mod and light grey canopy. Note position of I/XE on upper wing. BOTTOM — Belly view of same plane. National Archives photos. PHOTOS AT RIGHT: TOP— Bulb-nosed F7U-3, 128466, of VX-5, on 10-18-53. Photo by W. L. Larkins. MIDDLE — F7U-3, 129549, of VX-5 at San Francisco on 8-27-54. Overall natural metal photo by W. T. Larkins. BOTTOM — F7U-3, 129674 of VX-5 in natural metal scheme with green trim boarded by white. Note freshly modified intake. AAHS photo.

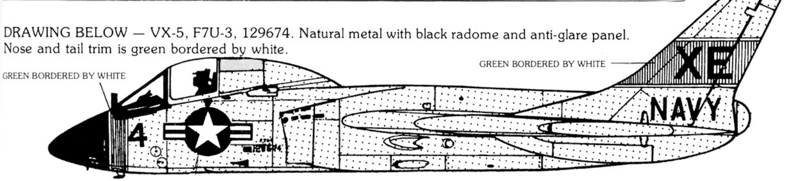


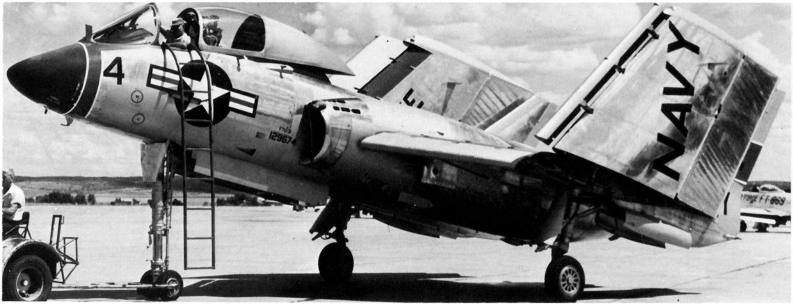



XE
NAVY
VX-5
2


XE
NAVY
VX-5
F7U-3
129549
RINES
542

DRAWING BELOW — VX-5, F7U-3, 129674. Natural metal with black radome and anti-glare panel. Nose and tail trim is green bordered by white.


GREEN BORDERED BY WHITE
GREEN BORDERED BY WHITE
XE
NAVY
4
129674


4
F7U-3
129674
NAVY

VA-12

The Flying Ubangis of VA-12 were commissioned in Watsonville, Calif. on 12 May 1945, as VBF-4 flying F6F-5s and F4U-4s. The squadrons designation was changed to VF-2A in 1946 and then VF-12 in 1948. The Hellcats and Corsairs were traded in for F8F-1 Bearcats in May of 1947 and the squadron transferred to Cecil Field, Florida on 2 February 1949. Then in September 1950 the Ubangis transitioned to the F2H-2 Banshee.

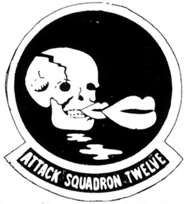
VF-12 became VA-12 on 1 August 1955 when the squadron received the F7U-3 Cutlass. VA-12 trained in the special weapons attack mission with the F7U-3s until April 1957 when the A4D-1 Skyhawk replaced them.

Two of VA-12s F7U-3s are still in existence. 129642 resides as a display aircraft at NAS Willow Grove and 129685 is owned by Walter A. Soplata of Newbury, Ohio. Mr. Soplata acquired his F7U-3 from NAS South Weymouth on 1 April 1962. Unfortunately the plane had to be extensively demilitarized and torched before being turned over to Mr. Soplata's open air museum. Today the bird has over 150 patches covering her wounds.

Mr. Soplata's Cutlass, 129685, history reads as follows:

Accepted 9-24-54 at Dallas and transferred to VF-81 at NAS Oceana on 11-1-54. On 4-25-55 she deployed aboard the USS Ticonderoga and at Leeward Point NAS. Returned to Oceana on 5-16-55 and transferred to VA-66 at Oceana on 7-1-55. On 8-8-55 she was returned to Dallas for modification and from there to NAS Norfolk for overhaul on 2-21-56. She returned to Oceana and Fasron-9 on 3-19-56 and then to NAS Cecil Field and Fasron-9 on 9-13-56. VA-12 received 129685 on 9-18-56 and retired her to NART South Weymouth on 5-10-57.

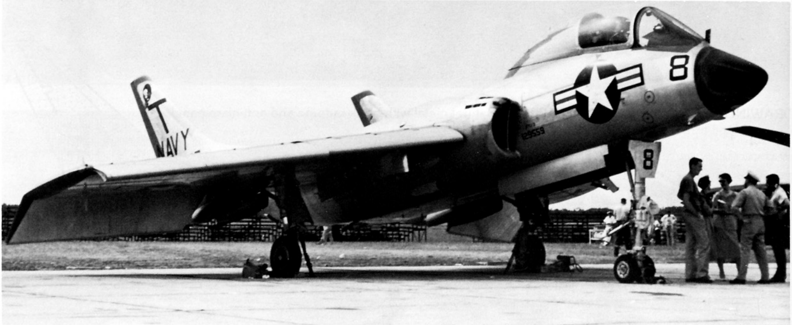
VA-12 insignia black with white skull and clouds, red border and lips.



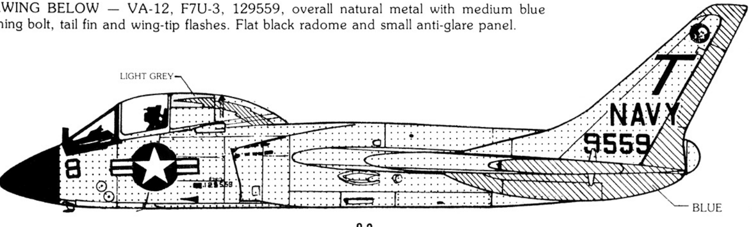
Willow Groves' F7U-3, 129642, history reads as follows:

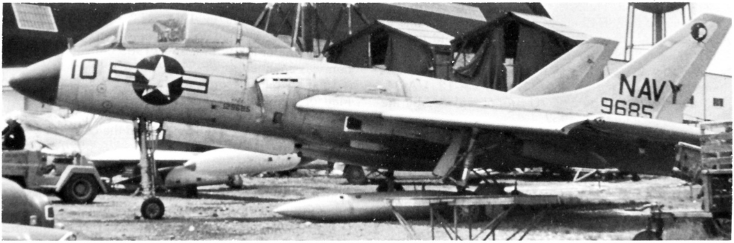
Accepted 6-11-54 at Dallas and transferred to VF-81 at NAS Oceana on 9-18-54. She was transferred to VF-83 at Oceana on 11-22-54 and then back to Dallas for modification on 6-6-55. After modification she was acquired by VA-12 at NAS Cecil Field on 12-30-55 where she remained until 5-9-57, when she was transferred to NART Willow Grove.

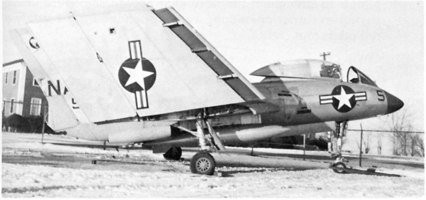
PHOTO BELOW — VA-12, F7U-3, 129559, in 1956. Note T on tail, modified intake and location of 8 on nose and gear door. Tailhook photo VF-03538 by J. A. Gryson.



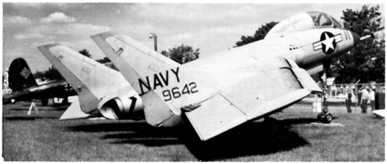
DRAWING BELOW — VA-12, F7U-3, 129559, overall natural metal with medium blue lightning bolt, tail fin and wing-tip flashes. Flat black radome and small anti-glare panel.

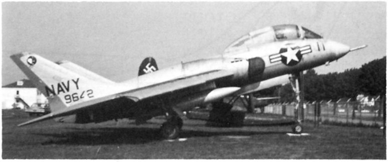


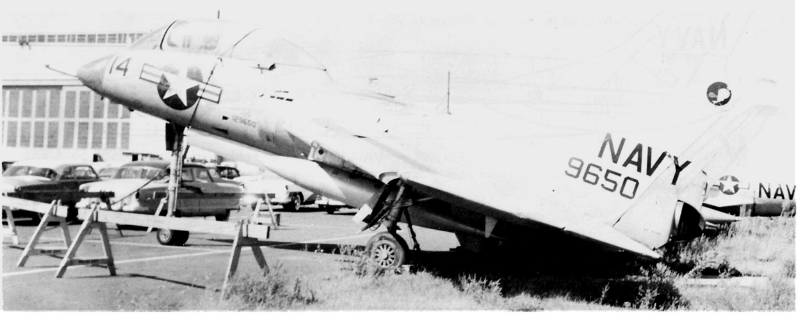

10
NAVY
9685
129685



PHOTOS: ABOVE — F7U-3, 129685, at NAS South Weymouth, May 1957. This is the aircraft acquired by Walter Soplata on 1 April 1962. Photo by Gordon Blake via Picciani Aircraft Slides. AT LEFT — VA-12 F7U-3, 129680, location unknown. Note how powder blue trim of rudder is carried over the main gear fairing. Photo by David Ostrowski via Menard. BELOW MIDDLE — Two views of Willow Groves F7U-3, 129642, at left photo by R. Odell via Menard, at right, photo by R. Besecker in 1960. BOTTOM — VA-12, F7U-3, 129650, location and date unknown, R. Besecker photo.






14
129650
NAVY
9650
NAV

VA-34

The Blue Blasters were commissioned as VF-20 on 15 October 1943 with FGF Hellcats. Then in April 1946 the squadron switched to F8F Bearcats and changed its name to VF-9A. VF-9A was changed to VF-91 in 1948 and then to VF-34 in 1950 at which time the squadron transitioned to F9F Panthers. In October 1956, VF-34 received the F7U-3 Cutlass and changed its designation to VA-34. Like VA-12, VA-34, trained in attack tactics with the F7U-3 until replaced by the A4D-1 Skyhawk in March of 1957.

Unfortunately no photographic evidence could be found to illustrate a VA-34 F7U-3.

VA-35

VA-35 was an AD Skyraider Squadron which had custody of one F7U-3 during Dec. 1956 only.

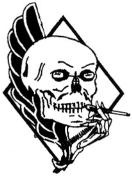
VF-81 AND VA-66

The Waldos of VA-66 were originally a reserve squadron flying F4U Corsairs out of NAS Atlanta, Georgia. They were put on active duty in 1951 as VF-671. As VF-671 the squadron transitioned to the F8F Bearcat and then to the F9F-5 Panther in 1953. Also in 1953 the squadrons designation was changed to VF-81.

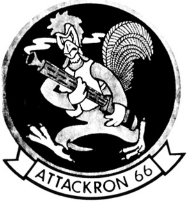
VF-81 would become the first F7U-3 Cutlass squadron in May of 1954, under the command of CDR Dixie Harder, based at NAS Oceana. In the spring of 1955 VF-81 made a short cruise to the Caribbean aboard the U.S.S. Ticonderoga.

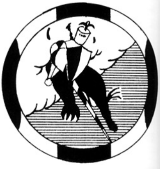
On 1 July 1955 VF-81 became VA-66. As VA-66, the Waldos deployed to the Mediterranean aboard the Ticonderoga in November 1955 as part of CVG-3. After returning to the United States in 1956, the Waldos transitioned to the F9F-8 Cougar in September.

During the VA-66 cruise to the Med., the squadron was commanded by Cdr. U.L. Fretwell. VA-66 was attached to CVG-3 while aboard CVA-14. The squadron was temporarily based ashore at Port Lyautey, French Morocco after one F7U-3s nose gear collapsed upon landing on the Tico. Attempts to strengthen the nose gear aboard ship were unsuccessful so carrier operations were suspended for the safety of the pilots and crew.

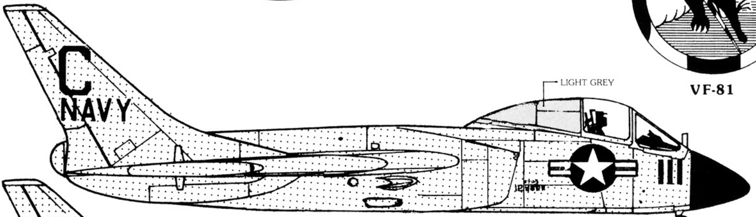


VA-34

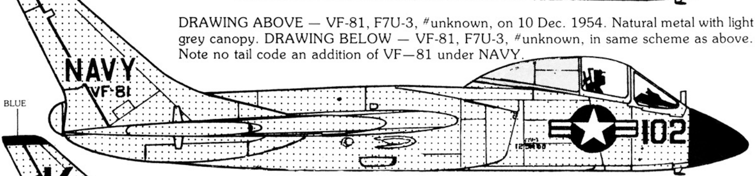


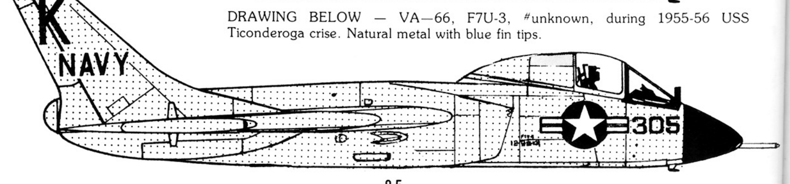


VF-81



DRAWING ABOVE — VF-81, F7U-3, #unknown, on 10 Dec. 1954. Natural metal with light grey canopy. DRAWING BELOW — VF-81, F7U-3, #unknown, in same scheme as above. Note no tail code an addition of VF—81 under NAVY.





DRAWING BELOW — VA—66, F7U-3, #unknown, during 1955-56 USS Ticonderoga crise. Natural metal with blue fin tips.

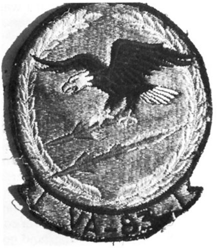
FLYING THE CUTLASS WITH VA-83

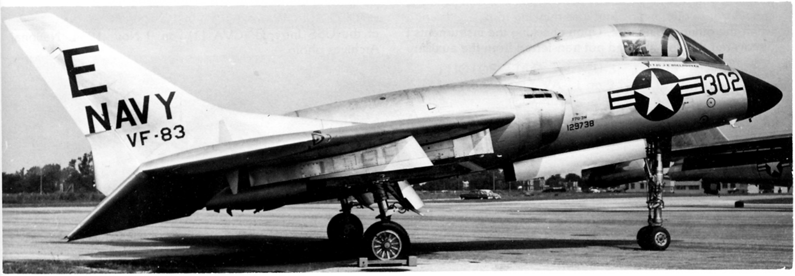
By Captain, then Lt., Bill Lebert, 1955-56.

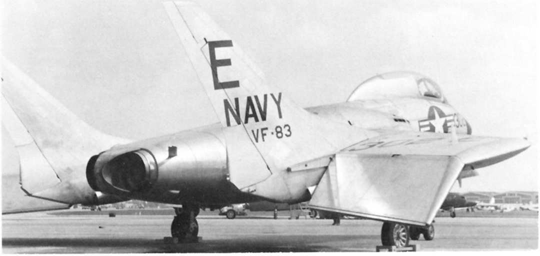
The squadron was based at NAS Oceana with Cdr. Hal Vita as the skipper and with Ltcdr. Fred (Fox-Charley) Turner as the XO.

I entered the squadron in May of 1955, after transitioning from the P2V-5 Neptune. I had gone through two weeks of ground school at Kingsville, Texas, when I went for my first jet flight in a Lockheed TV-2. I had troubles with my oxygen mask and microphone so my instructor said, "Just use your lip mike and we will stay below 15,000 and do some stalls so that you can get the feel of the plane." We got to altitude and did some clearing turns and started to slow the plane down; 200 kts. — 180 kts. — the stick popped out of my hands and the instructor said "I got it — we just flamed out!" The end result was that we both ejected and got out ok. They were happy

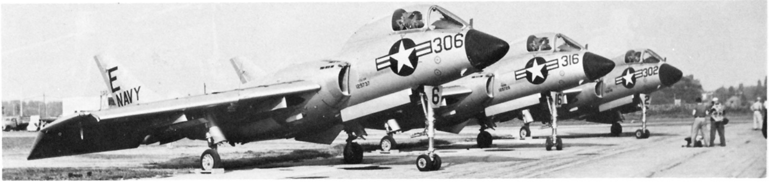
Patch is silver blue bordered by black, VA-83 also black. Eagle is black with white head and tail and yellow beak and legs. Leaves are white and rockets are red with yellow flame.







PHOTOS: TOP . F7U-3M, 129738, in Sept. 1955, still carrying the VF-83 designation. Natural metal overall with pilots name LT J.G. BOELHOUWER above national insignia. Photo via Menard. MIDDLE — Same aircraft at Philadelphia in Sept. 1955. Note location of 302 E on upper wing and enormous size of the ailevators. Photo by Warren D. Ship. BOTTOM — VF-83 line as photographed in Sept. 1955 by Thomas Curddy, via Lionel Paul. 306/E is 129737, 316/E is 129729, and 302/E is 129738 seen above.



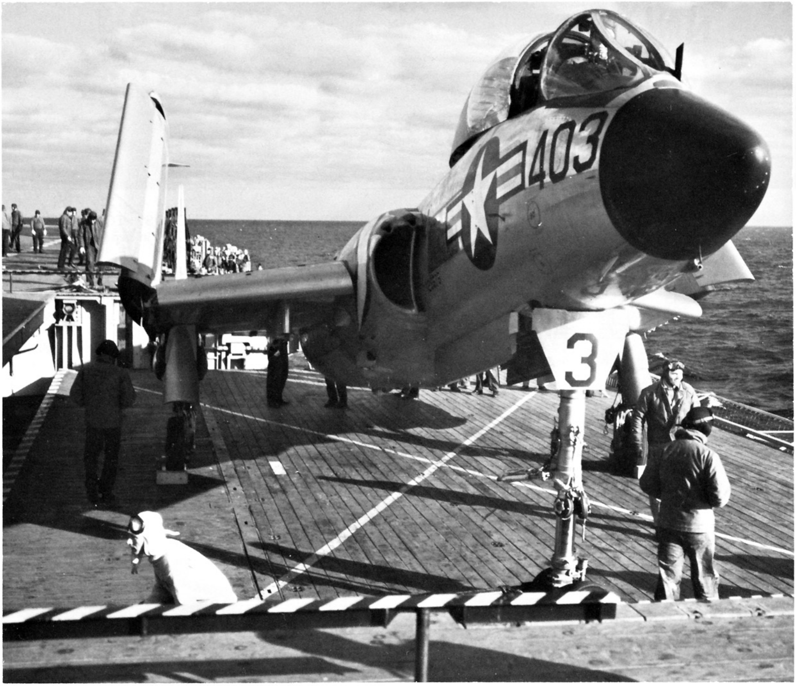
back at the base as they said I was the first student to eject completely successful in four years. From then on I was nicknamed "boomer" because I had ejected on my first jet ride.

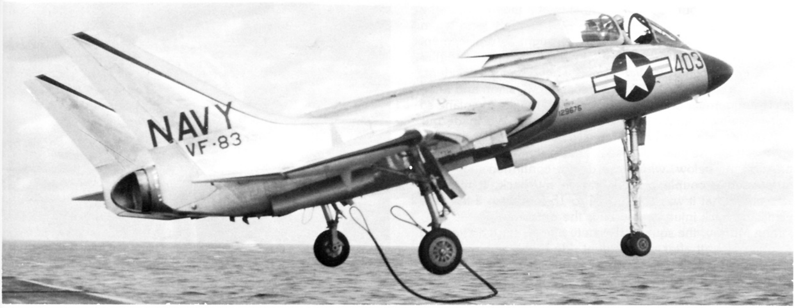
On my first flight in the Cutlass I was a little puckered after hearing all the hairy stories. The guy I was flying with commented that I had two new tires on the main gear. I said "yeah, no reason to blow those," but I did. I came in too fast and was too rattled by all the stories I had heard.

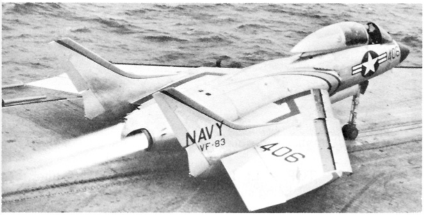
On my first flight in air-to-air gunnery, I had an interesting experience. An F-9 was towing the rag (target) while being escorted by a Cutlass. Our flight of four F7U-3s were commencing our passes on the banner. John Murray was the division leader and I was his wingman. John had made his first pass and I was in the middle of mine when John called "One from two join up, I have a power control light, I'm returning to base." So, I got into burner and got up under him, and after looking him over, I said, "I don't think you have much of a problem, you probably just lost one system." All of a sudden I flamed out in one engine and was thinking to hell with John when the other engine quit. Upon checking the instruments I discovered that the fuel had not transferred from the auxiliary cells to the main cell. So I then hit the transfer switch and was gliding until the main tank got to 400 lbs. at which time I lit one engine. Then when I got to 1500 lbs. I lit off the other engine and made a normal landing. In that flight of four Cutlasses, Tom Quillin was flying and he had an electrical problem. He called in for emergency landing instructions, and the tower came back "Roger, your number three in the emergency pattern."

When the squadron deployed to the Mediterranean aboard the USS Intrepid (CVA-11), I stayed aboard as the missile officer as we then had the F7U-3Ms. While aboard ship we had taken the guns out to lighten the aircraft and make it safer to come aboard ship. We felt that the loss of four guns (at that time) was more than compensated for by the missile capability of the F7U-3M. During our OpDev Four evaluations we had fired about 30 missiles. Every fighter pilot fired at least a couple of them at F6F's and we felt fairly familiar with the system.

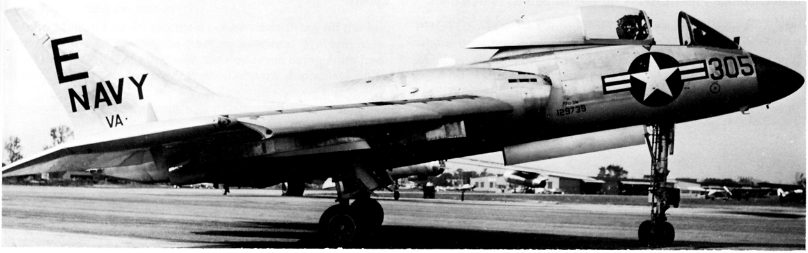
PHOTO BELOW — VF-83, F7U-3, 129676, on the elevator of the USS Intrepid (CVA-11), on 9 Nov. 1954. National Archives photo.



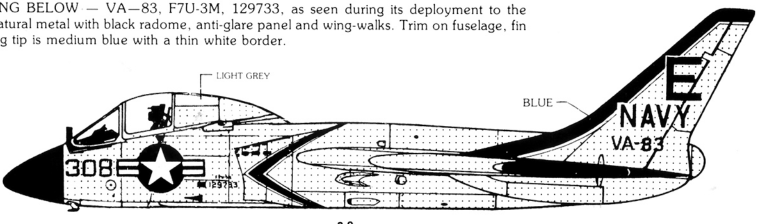

NAVY
VF-83
403
129676


NAVY
VF-83
406

PHOTOS: TOP — F7U-3, 129676 again, being launched from CVA-11 on 9 Nov. 1954. Note full extension of gear and bridle falling away. Intake and fin trim appears to be orange bordered by dark blue. USN Tailhook photo VF—02056 by W. P. Rathbun. MIDDLE — VF-83, F7U-3, taking off from the USS Oriskany (CVA-34) on 23 Jan. 1955. Note location of 406 on upper wing and insignia behind canopy glass. USN photo. BOTTOM — F7U-3M, 129739, in Sept. 1955, overall silver with freshly painted VA —, but no squadron #. Note early intakes. Photo by G. Williams via W. T. Larkins.


E
NAVY
VA-
305
F7U-3M
129739

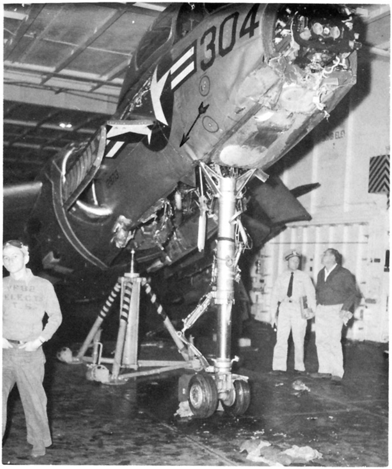
DRAWING BELOW — VA—83, F7U-3M, 129733, as seen during its deployment to the Med. Natural metal with black radome, anti-glare panel and wing-walks. Trim on fuselage, fin and wing tip is medium blue with a thin white border.


LIGHT GREY
BLUE
E
NAVY
VA-83
308
129733

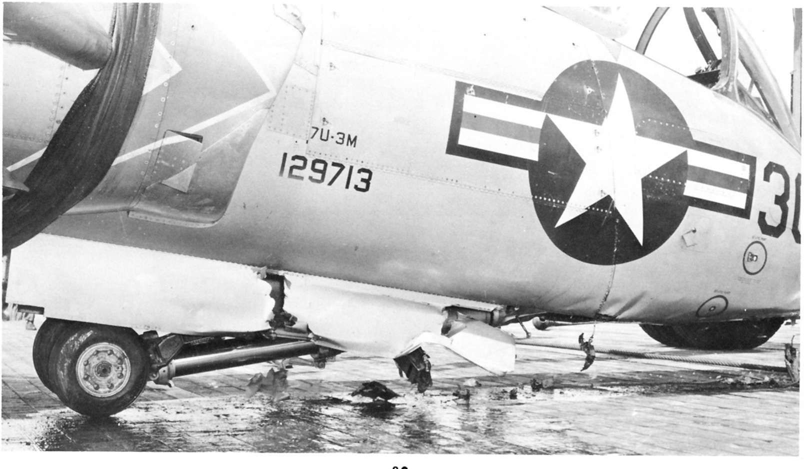
We had only four aircraft aboard ship at a time while in the Med. The rest were ashore at NAS Port Lyautey, and when we lost or damaged a F7U-3 we brought a replacement aboard. I had just finished liberty at Cannes, France, and had gone out on a flight with the skipper, when I had my accident. The skipper's plane was in the number two position and mine was in the number one. Hal Vit a decided to take my plane so I got his, which had the most carrier landings. We made our flight and I made what I considered to be a normal landing except that the nose gear collapsed. They put me into a stretcher and took me below, where the doctor confirmed that I had compressed a couple of vertebrae in my back. It must be rememberd that it was about a 14 to 15-foot drop if the gear failed, and back injury was always the outcome.

John Murray, the squadrons safety officer, started checking the other aircraft after my accident. He found one aircraft in which the drag link was bent one inch, when it was only allowed to be bent a 20,000th of an inch. After going through all the aircraft records, he discovered that the F7U-3 with the bent drag link had the most carrier landings next to the plane I crashed in. He then found out that the service change strengthened the nose gear by 30% had not been incorporated, but luckily for me the service change was incorporated which deflected the strut so that the pilot would not be ejected out of the aircraft when the strut failed.

After I recovered from my injuries, my first hop in a F7U-3 was again memorable. I stayed up for about two hours — as long as I could. When I returned to base and lowered my gear I got an unsafe gear light. So I retracted the gear and tried the emergency system which blew down the gear. The only problem with this system is that once activated you could not then retract the gear again. After I had blown the gear, I still had an unsafe light. At this point my fuel state was such that I could not climb to altitude to eject, so I had to bring her in. Luckily it was just a warning light malfunction and the landing was uneventful.



PHOTOS: TOP — Lt. Lebert's F7U-3M, 129713, after the crash. Plane is being supported by a floor jack. BOTTOM — Closeup of forward fuselage immediately after the nose gear failure. Note intake modification detail. USN photos via Capt. Lebert.



In the air the Cutlass handled like a dream and you could land her in a 35-40 knot crosswind with no problems. One shortcoming of the F7U-3 was that it was designed for a much more powerful engine than it ever received. On the plus side the airplane was super strong; you just couldn't break it.

One thing you didn't do with the Cutlass was to attempt a one engine approach and landing aboard ship. If it was to be attempted at all it would have to be done in afterburner with the speed being controlled by speed brakes. The probability of this procedure succeeding was virtually nil. The solution here was to eject.

We had a pilot by the name of Morrey Loso who accidently discovered the solution to the post-stall gyration. He was up at altitude doing maneuvers when he entered the gyration. He tried to recover and was unable to, so he went to eject — reached for the race curtain and took one last look at the instruments. As he looked, the instruments stabilized and the plane recovered. This then became the recovery procedure; let go of the stick and let the F7U-3 fly itself out of the problem. This solution was latter proved by the testing at Cornell.

When we came back to the states we had a change of command and Jim Holloway took over the squadron. At that time only two or three of the original squadron personnel remained. We had succeeded in checking all the new pilots out in the F7U-3M when we started trading in our F7U-3Ms for A4D-1 Skyhawks. Some of our Cutlasses left the squadron to be put in school yards when the total airframe time was less than 50 hours.

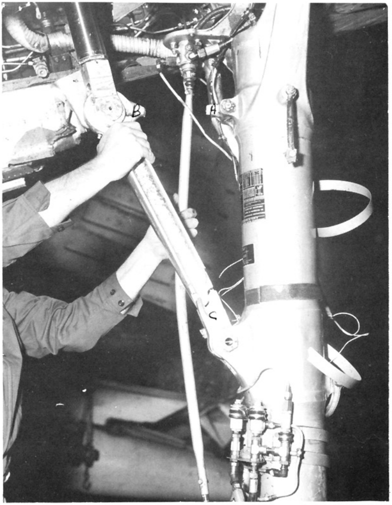
The following list is a list of squadron accidents besides mine.

Pitkin lost a F7U-3 while landing aboard ship, but I don't recall the reason for it.

Turner ejected after a control failure.

We lost one pilot in the Med., who flew into a mountain while flatt-hatting on one engine.

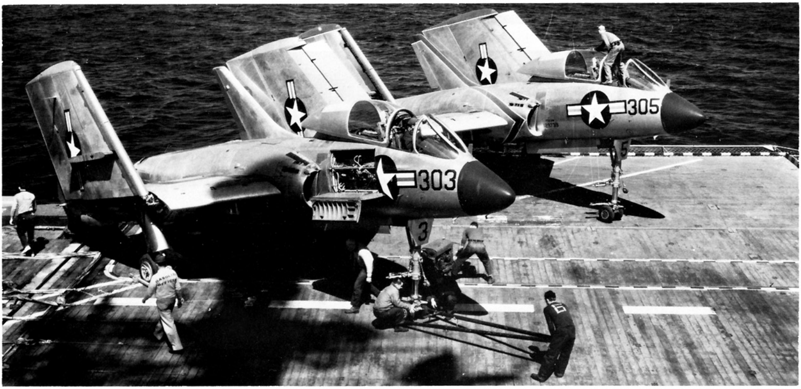
John Murray had an electrical failure while flying off the Intrepid CVA-11. When you had an electrical problem you could not transfer your fuel with the end result being John had to eject as he was too heavy to land aboard ship.

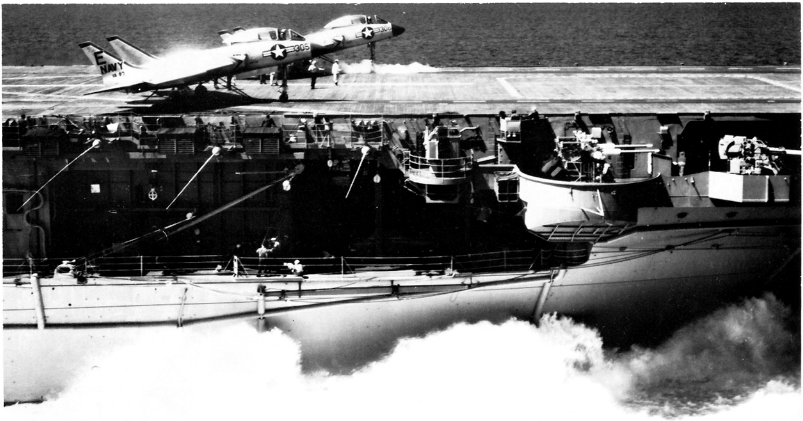


Bill Brewer put a F7U-3 in the back bay at Norfolk, Vir., for reasons unknown.

John Barnes landed wheels up at NAS Port Laverty.

PHOTOS: TOP — Closeup of Lt. Leberts nose gear showing where drag brace failed. USN photo via Capt. Lebert. BOTTOM — Two VA-83, F7U-3Ms, on the Intrepids deck on 3-22-56. National Archives photo.

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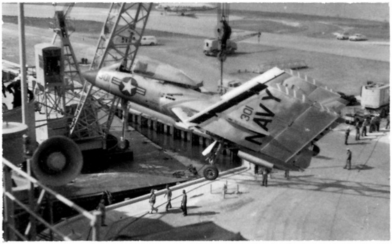
NAVY
305
306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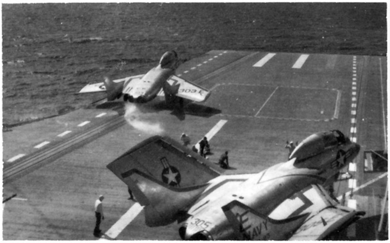
301
NAVY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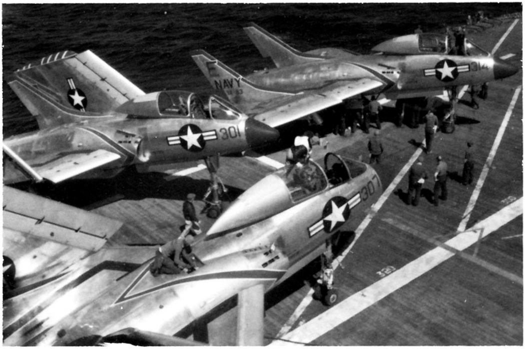
NAVY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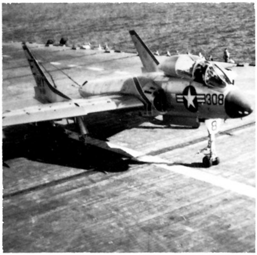
NAVY
314
301
307

Five photos of VA-83 ops aboard the USS Intrepid (CVA-11). National Archives photos. Note intake and fin trim is now blue bordered by white.

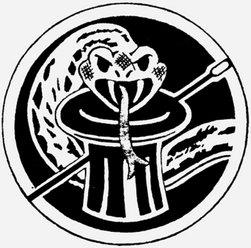


VF-84 and VA-86

VA-86 was originally commissioned as VF-921. This was a reserve squadron called up for duty from NAS St. Louis in February of 1951. From 1951 to 1953 VF-921 would fly the F4U Corsair. In February of 1953 the squadrons designation was changed to VF-84 and in June the squadron transitioned to the F8F-2 Bearcat. The Bearcats were then traded for F9F-5 Panthers in November 1953.

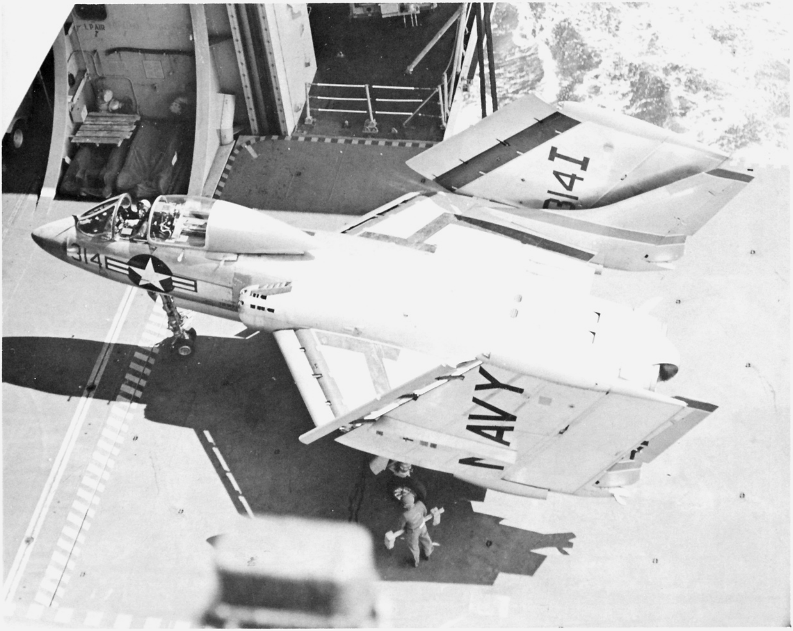
In April 1955, the squadron began transitioning to the F7U-3M Cutlass, or as the squadron affectionately called it "the Ensign Eater." In July 1955, the squadron was again redesignated as VA-86 to reflect its new equipment. VA-86 was one of the first fleet units to be equipped with a Sidewinder capable aircraft, therefore the squadron took on the name "Sidewinders".

Following extensive evaluation work with the Sparrow I missile and a shakedown crise aboard the then new USS Forrestal CVA-59, the F7U3-Ms were replaced by A4D-1 Skyhawks in May 1957.



VA—86 insignia, black outside border, background, spots on snake, hat and cane. Red eyes and tongue. Gold ends of cane and snake. White middle border, lines around cane & hat, fungs and eyeballs.

PHOTO BELOW — All silvr VA—86 F7U-3M on the USS Forrestal s (CVA-59) elevator, on 2 March 1956. Note that the fin stripes of blue bordered by white are on the inside of the fin too. Area under slats is red. USN Tailhook photo VF-02859.



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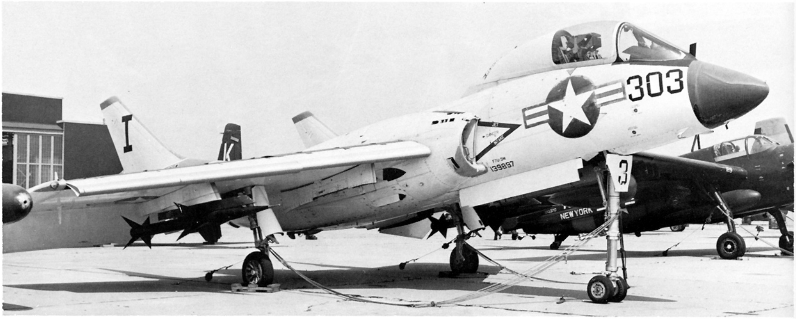
NAVY
203 I
309


I
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139897
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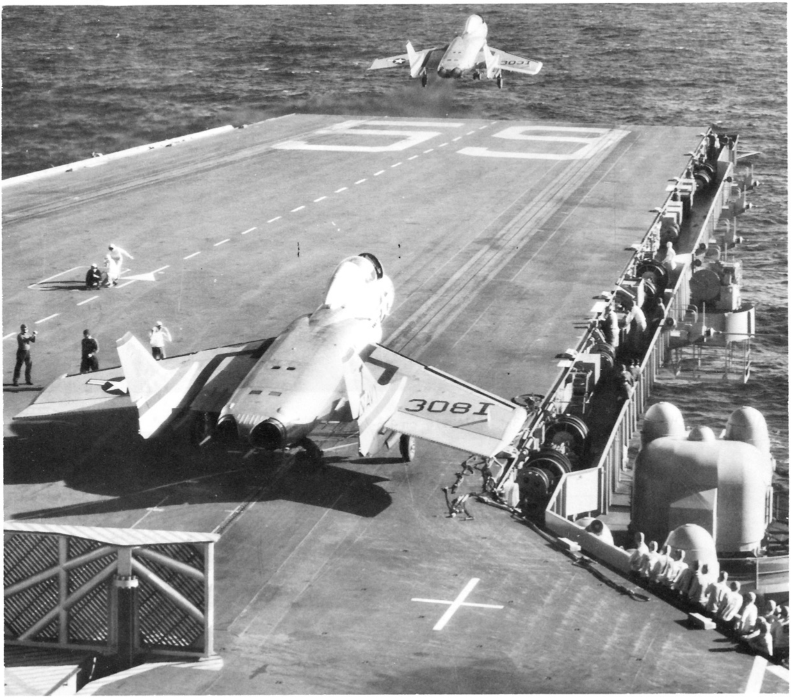
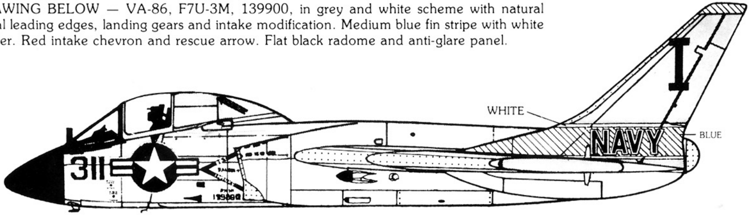
PHOTOS AT LEFT: TOP — VA—86, F7U-3M positions to launch from CVA—59, while VF-21 FJ-3s await their turn as a VF-41 F2H is launched from the angled deck. Note location of wing codes. National Archives photo taken on 3-56. BOTTOM — F7U-3M, 139897, of VA—86 in the grey and white scheme on 6 June 1957. Note silver area where the intake has been modified and the dark blue Sparrows and rocket rails. Note also natural metal leading edges and red rescue arrow atop canopy. Tailhook photo VF-02972 by Robert L. Lawson. PHOTO BELOW — VA—86 launch during shakedown cruise of CVA-59 on 28 Jan. 1956. USN Tailhook photo VF-02859 by PH3 Simpson.



DRAWING BELOW — VA-86, F7U-3M, 139900, in grey and white scheme with natural metal leading edges, landing gears and intake modification. Medium blue fin stripe with white border. Red intake chevron and rescue arrow. Flat black radome and anti-glare panel.

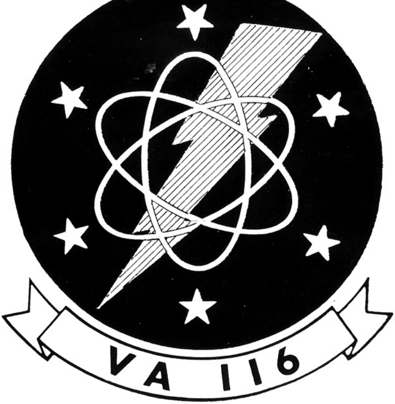


VA-116

VA-116 was commissioned at NAS Miramar, Calif. on 1 December 1955, with CDR. J.L. Callis as the Commanding Officer and LCDR D.H. Stinemates as the Executive Officer. The squadron was assigned to ATG-2 (Air Task Group Two) and carried the W tail code of that unit. In April of 1957, the squadron deployed to the West Pac. aboard the USS Hancock (CVA-19) with one of the new two letter tail codes, NB.

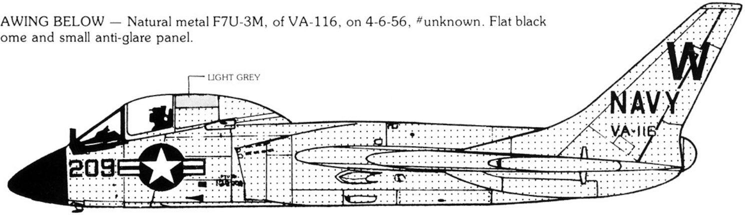
While on cruise VA-116, twelve F7U-3Ms out performed all other squadrons shipboard operational records. The squadron flew 343 flights totaling 458 flight hours. VA-116s primary function aboard Hancock was that of day interceptor armed with Sparrow I guided missiles, cannon, and the 2.75″ Mighty Mouse rocket pack. In September 1957 VA-116s cruise aboard CVA-19 ended and the F7U-3 was retired from the fleet and relegated to use by utility and special units.

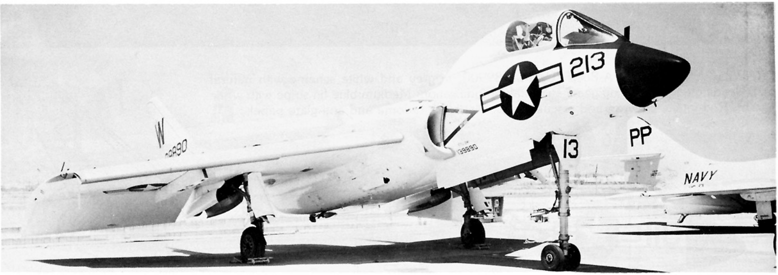
PHOTO BELOW — VA-116, F7U-3M, 139890, in grey and white scheme on 6-24-56. Note silver intake modification and natural metal leading edges. Note yellow stripe with thin blue border running up the vertical fin. Photo by William Swisher. PHOTOS AT RIGHT: TOP — Four VA-116 F7U-3Ms over the Pacific. 213/W, 139890 — 207/W, 139893 - 211/W, 129716 — 212/W, 139890 — 207/W, 139893 — 211/W, 129716 — 212/W 139896. Note location of wing codes and #s on top of fuselage. BOTTOM — Two VA-116 F7U-3Ms over Atsugi, with the new NB tail codes. Photo shows good belly detail. Note modified intakes which are white and dark blue rocket rails. USN Tailhook photo VF-02861, taken in 1957 while deployed aboard USS Hancock (CVA-19) WESTPAC. 204/NB is 139902 — 201/NB is 139912.

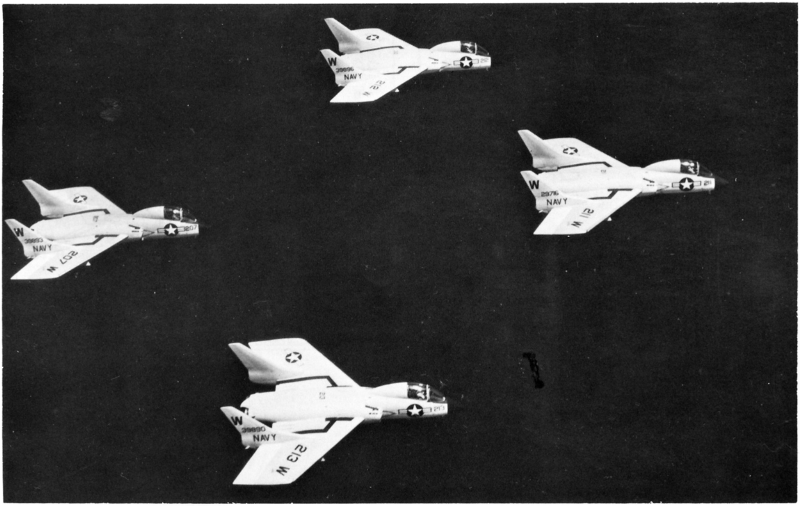


VA-116 insignia is black with white stars, yellow atomic structure and a red lightning bolt.

DRAWING BELOW — Natural metal F7U-3M, of VA-116, on 4-6-56, #unknown. Flat black radome and small anti-glare panel.






W
39896
NAVY
212 W
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29716
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211 W
W
39893
NAVY
207 W
W
39890
NAVY
213 W

NB
399
N
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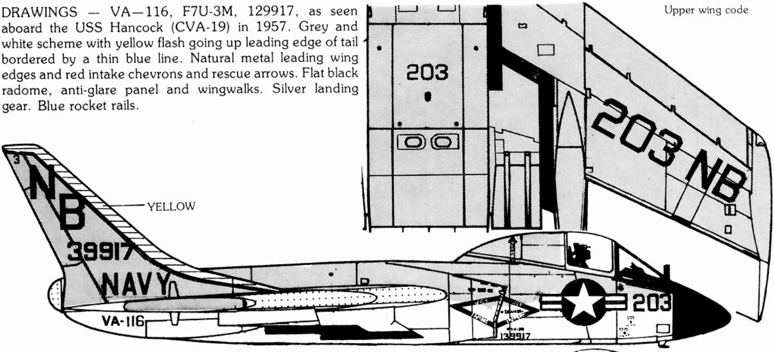
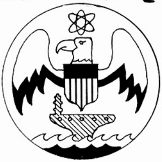
N

DRAWINGS — VA—116, F7U-3M, 129917, as seen aboard the USS Hancock (CVA-19) in 1957. Grey and white scheme with yellow flash going up leading edge of tail bordered by a thin blue line. Natural metal leading wing edges and red intake chevrons and rescue arrows. Flat black radome, anti-glare panel and wingwalks. Silver landing gear. Blue rocket rails.



VA-126

VA-126 was commissioned on 6 April 1956 at NAS Miramar, Calif. With the F7U-3 Cutlass, VA-126 was assigned to Carrier Air Group twelve (CVG-12). The Seahawks, as the squadron became known, only flew the Cutlass until March of 1957 when they were replaced by the Cougars. During this short time, however, the squadron proved how accurate the F7U-3 could be in attack role. VA-126 had deployed to NAAS Fallon, Nevada for a two-and-a-half week weapons test. While at Fallon VA-126 pilots scored more "E's" than any other Navy squadron, regardless of aircraft type.



VA-126 INSIGNIA

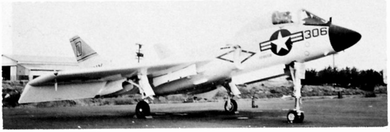
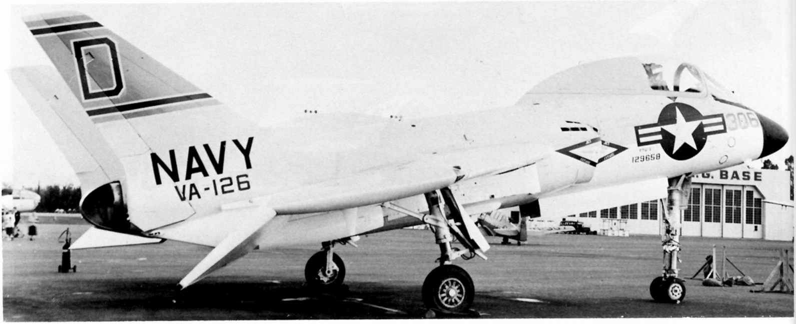


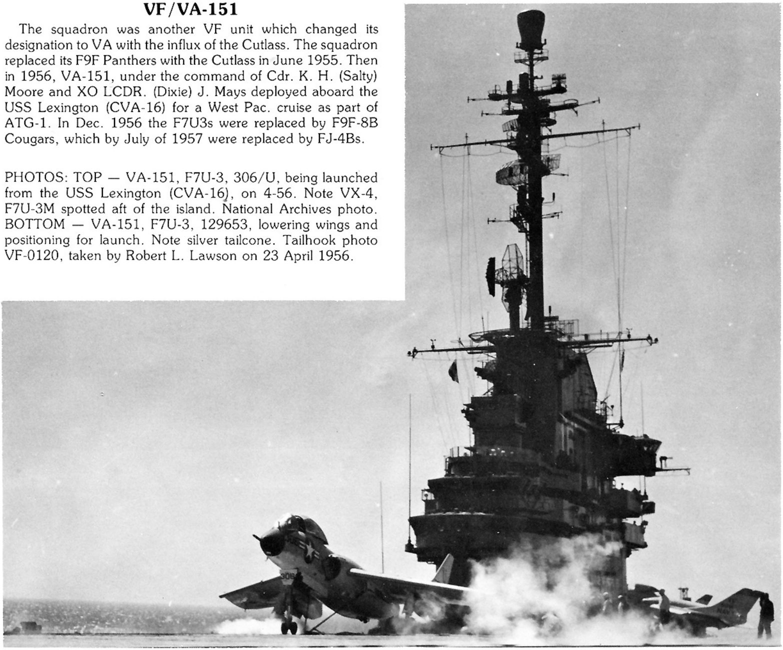
PHOTO AT LEFT AND BELOW — two views of a VA-126 F7U-3, 129658, at Van Nuys Calif. on 5-19-56. Grey and white scheme with medium blue nose # and tail markings with a black D and two thin black stripes bordered in light grey. Also note modified intake and excellent view of main gear details. Photos by William Swisher.

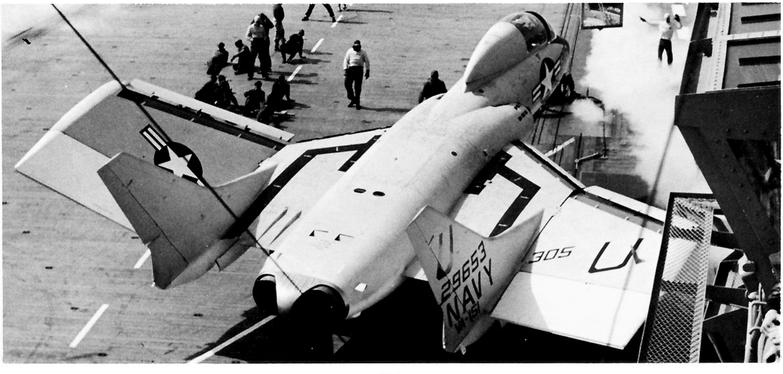


VF/VA-151

The squadron was another VF unit which changed its designation to VA with the influx of the Cutlass. The squadron replaced its F9F Panthers with the Cutlass in June 1955. Then in 1956, VA-151, under the command of Cdr. K. H. (Salty) Moore and XO LCDR. (Dixie) J. Mays deployed aboard the USS Lexington (CVA-16) for a West Pac. cruise as part of ATG-1. In Dec. 1956 the F7U3s were replaced by F9F-8B Cougars, which by July of 1957 were replaced by FJ-4Bs.

PHOTOS: TOP — VA-151, F7U-3, 306/U, being launched from the USS Lexington (CVA-16), on 4-56. Note VX-4, F7U-3M spotted aft of the island. National Archives photo. BOTTOM — VA-151, F7U-3, 129653, lowering wings and positioning for launch. Note silver tailcone. Tailhook photo VF-0120, taken by Robert L. Lawson on 23 April 1956.





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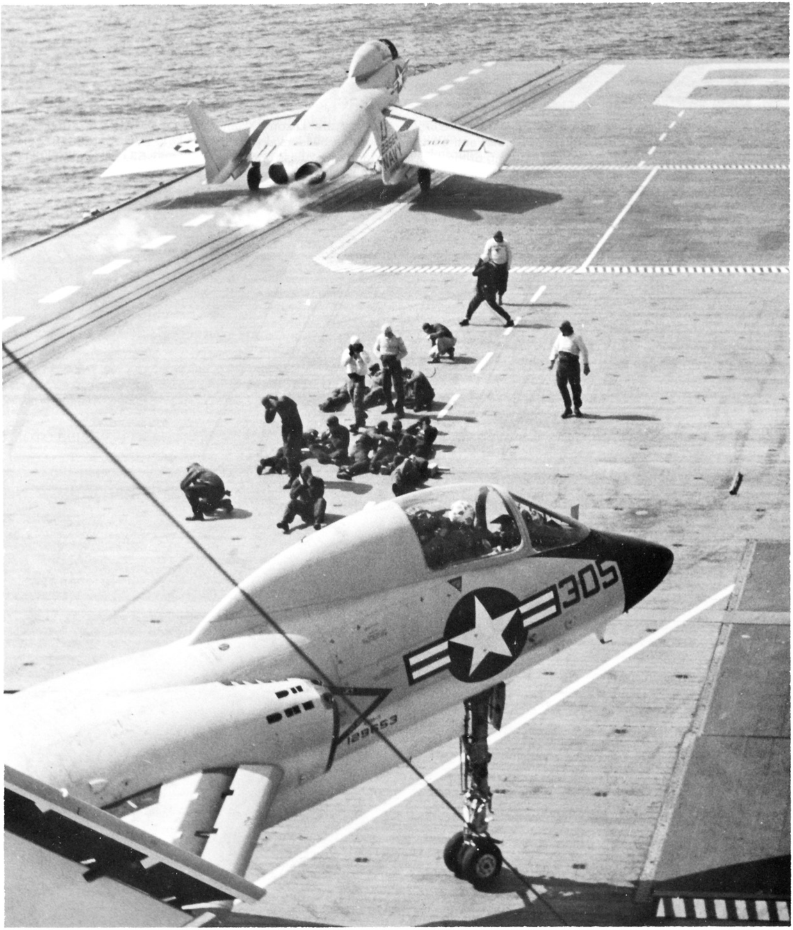
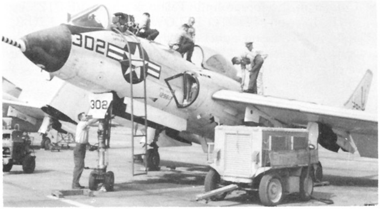
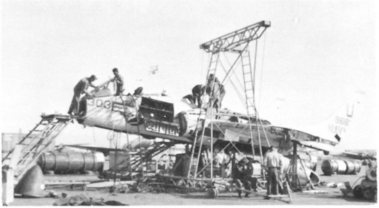
PHOTOS AT LEFT: TOP — F7U-3, 129618, with folded wings. Note silver intake modification, and the fact that the wing code is H instead of U as seen on the previous page. VA-151 was in the process of changing its codes. Tailhook photo VF-0119 by Lawson. BOTTOM — Same plane launching on 23 April 1956, again note H code as compared to U on the Cougar in the foreground. Tailhook photo VF-0121 by Robert L. Lawson. PHOTO BELOW — VA—151, F7U-3, 129664, 306/U, being launched, while F7U-3, 129653, pulls forward. Tailhook photo VF-0122 by Robert L. Lawson. Note shape of black anti-glare panel.

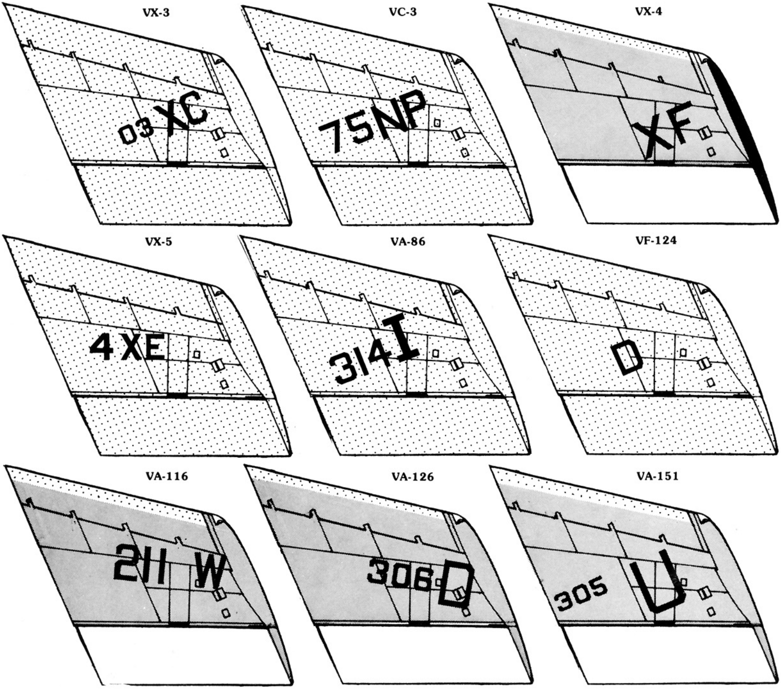






PHOTOS: ABOVE LEFT — VA-151, F7U-3, 129617, undergoing maintenance on 8-56. Again note anti-glare panel. Plane has a red and white striped refueling probe and natural metal leading edges and landing gear. Names under canopy are Dixon D. and Lett, J.D. ABOVE RIGHT — Diorama builders dream, a VA-151, F7U-3, 129618, being scrapped by Fassron personnel, on 1-57. Both planes sport blue fin tips. National Archives photos.

TYPICAL UPPER WING CODES


VX-3
03XC
VC-3
75NP
VX-4
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VA-86
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VF-124
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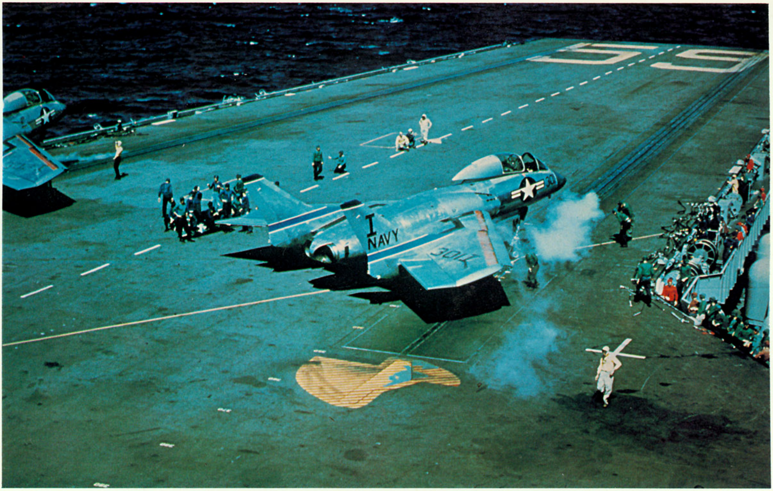
VA-116
211 W
VA-126
306D
VA-151
305 U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